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AUTHOR	Proger, Barton B.; Leiss, Robert H.
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ABSTRACT

Effects of the different components of the Distar language program were tested on 48 trainable mentally retarded (TMR) children. Three designs were used comparing IQ, sex, continuation status, selected standardized test results, and replicates. Results indicated that the degree of previous formal language training (continuation status) did not have any effect on current functioning. The Distar program produced steady, acceptable progress of the TMR children throughout the school year. In addition, the Distar program proved more effective when compared with the Peabody Language Development program received by 40 TMR children. (The report presents final, third-year data representing part of a series of studies on the most effective language training activities for TMR children. The major portion consists of statistical data. Results of the first 2 years' studies are reviewed. (IM)

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TERMINATION REPORT

(TECHNICAL DATA)

LANGUAGE TRAINING FOR TMR CHILDREN; THIRD-YEAR RESULTS AND COMPARISON WITH FIRST TWO YEARS; THE PEABODY, DISTAR, AND ITPA PROGRAMS

by

Barton B. Proger

and

Robert H. Leiss

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Special Education Center
1605-B West Main Street
Norristown, Pennsylvania 19401

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ABSTRACT

The report presents final, third-year data that represent a portion of the series of studies on the most effective language training activities for trainable mentally retarded children. The first-year, controlled study (Leiss & Proger, 1973, ERIC No. ED-080424) compared different intensities of ITPA-based training and found little effectiveness to any of the approaches. The second-year study examined in a very controlled fashion the relative effectiveness of the Peabody and Distar programs (Leiss & Proger, 1964, ERIC NO. ED-097-789) and found that significant differences occurred in the low-IQ portion of the TMR sample, and in particular in favor of the Distar program. This third year was primarily aimed at intensively examining the manner in which various categories of TMR children were affected by the different components of the Distar program; nonetheless, an incidental comparison between the Peabody and Distar was carried out to provide supplementary data to the second-year results. First, the Peabody-Distar comparison (2 X 2 X 2 X 2 X 5 design: treatments X sex X continuation status X measures X replicates) reinforced the second-year finding that the Distar program was more effective; however, this must be qualified by the fact that the Distar program in the third year was not randomly assigned but instead was given to children who had greater language facility, while the Peabody program was given to children with lease facility. Nonetheless, an examination of pretest levels revealed no significant differences that might give one hesitation in accepting the findings. Second, and on completely firm ground, was the intensive study of the Distar program itself. Three designs were used (2 X 2 X 2 X 2 X 4: IQ X sex X continuation status X measures X replicates; 2 X 2 X 2 X 4: IQ X sex X continuation status X replicates; 2 X 2 X 2 X 7 X 4: IQ X sex X continuation status X measures X replicates). Here,

degree of previous formal language training (continuation status) did not have any effect on current functioning; also, the Distar program produced steady, acceptable progress of the TMR children throughout the school year.

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OBJECTIVES

Five objectives were posed for the third year of this project:

1. To effect language changes through the use of the Peabody Language Development Kit program with young nonverbal children.
2. To effect language changes through the use of the Peabody Language Development Kit program in a Distar format with trainable mentally retarded children who have attained word level.
3. To effect language changes through the use of the Distar program with trainable mentally retarded children who have attained at least the phrase level in verbal expression.
4. To involve the classroom teacher in the implementation of these programs
5. To attempt to generalize that an effective language stimulation program can be carried out by the classroom teacher.

PREVIOUS PROJECT EFFORTS

The present report contains the results of the 1974-1975 project activities. This was the third year of the project. The detailed findings of the first two years are contained in two separate reports (ERIC Documents Nos. ED-082-424 and ED-097-789). However, brief recapitulations will be given here.

During the first year, a language stimulation program based on the Illinois Test of Psycholinguistic Abilities was carried out by five speech clinicians. The children were randomly divided into three groups: 1) control group which received no training, 2) a group which received the program four times per week and 3) a group which received the program eight times per week.

The first year's results revealed that there were no significant differences among levels of intensity. In general, there appeared to be little improvement of the children. It appears that specific, prolonged language training based on the ITPA is ineffective despite the intensity of application.

In the second year of the project, the five speech clinicians carried out the Peabody Language Development Kit program and the Distar program. The children were randomly divided into the two groups which received the stimulation program four times per week.

During the second year, the results indicated that low IQ trainable mentally retarded children were aided more by Distar than by the Peabody program. The children who were in the program for the second year showed greater gains in the Distar program. It was also noted that the summer-lag phenomenon did occur. In considering the posttest from the first year and the pretest of the second year, a marked decrease in performance was observed.

TREATMENTS

During the third year of the project, each TMR child was assigned to one of three program offerings. The assignments were made not on a random basis, but instead upon the basis of what degree of language facility each child had. In this manner, the treatments were assigned in a rational, real-life fashion. It must be remembered that the primary goal was the appropriate education of the children, not basic research. However, in spite of what might be termed various types of self-selection biases at work (related to language facility, which might be termed a developmental/organismic variable, as opposed to sex, which would be the classical type of organismic variable), the reader will see later in the design itself that the final data actually analyzed arose from representative, randomly selected children.

The three treatments consisted of the Peabody Program (Level P), the Distar Program, or a combination of the two. Those children who were essentially non-verbal received the Peabody Level P offering. Those children who had some language facility (knowledge of some words and phrases) were given the combination of Peabody Level P and Distar. Finally, if a child could use at least short sentences, he was given the regular Distar program.

The third year was devoted to implementing the Peabody Language Development Kit program (Level P) with the young, non-verbal trainable mentally retarded children, using this same program with a more structured format as the children gain verbal ability at the word level. The Distar program will be used for those children who have attained phrase level or higher. In addition to these programs, specific lessons which were intended to facilitate and generalize verbal expression were also carried out. This continuum of language programs was implemented in a small group by the classroom teacher. During the third year, specific training was provided to each of the classroom teachers involved in the project. This training was carried out during the regular school year.

During the first year, a language stimulation program based on the Illinois test of Psycholinguistic Abilities was carried out by five speech clinicians. The children were randomly divided into three groups: 1) control group which received no training, 2) a group which received the program four times per week, and 3) a group which received the program eight times per week.

In the second year of the project, the five speech clinicians carried out the Peabody Language Development Kit program and the Distar program. The children were randomly divided into the two groups which received the stimulation program four times per week.

During the third year, the classroom teachers were trained to provide a modified Peabody program for the non-verbal children and the Distar program for the verbal children. Two clinicians presented the program one day per week and the classroom teacher three days per week.

STUDENTS

Students who were in the Intermediate Unit's TMR classes for the trainable mentally retarded were involved in this project. During the first and second years of the project, students were involved in varying ways with ITPA training, Peabody training, and Distar training. As with any large public school operation, the Intermediate Unit's TMR classes during the third year had some children who were continued from the first project year, some who had entered during the second year, and continued into the third year, and still others who were new entries for the third year itself. Further, not all children from the Intermediate Unit's classes were involved in any given year of the project in the activities in question for that year. Thus, over the three years of the project, one has several possibilities for a student's involvement. Table 1 summarizes the possibilities of a student's continuation status in third-year activities. The variable of continuation status becomes crucial in the actual design of this third-year study, as the reader will see later.

For reasons that should be clear to the reader, the investigators decided to eliminate any child with a continuation status of 2,3,4,or 5. Apart from the data arising from such continuation statuses being of doubtful "cleanliness," the numbers of children in these categories did not warrant further exploration. (See Table 2)

Before any purging of data occurred due to continuation status or missing data, there was a total population of 233 children. The distribution of children by IQ bands is given in Table 3.

Finally, another area of elimination from th formal concerns of this report were those children who received the combined Peabody/Distar programs (see Table 3 for one type of breakdown). Table 4 shows the nature of these children who, while of course given programing over the course of the year, were not involved in the formal comparisons (IQ was again split between 44 and 45).

For the Peabody-versus-Distar comparison, 5 students were randomly selected from each design cell (see Page 12) to yield a total of 40 children. For the Distar intensive analyses, 4 children were randomly selected from each design cell to yield a total of 48 children.

TABLE 1

CONTINUATION STATUS LEVELS

LEVEL	DESCRIPTION
C.S. 1	1974-1975 (1 year of contact)
C.S. 2	case study control group (3 years of contact)
C.S. 3	controls in 1972-1973, then regular program in 1973-1974 and also 1974-1975 (2 years of contact)
C.S. 4	in year 1, out year 2, in year 3 (2 years of contact)
C.S. 5	in all 3 years, but case study in year 1 (3 years of contact)
C.S. 6	in year 2 (1973-1974) and year 3 (1974-1975) (2 years of contact)
C.S. 7	in all 3 years (3 years of contact)

TABLE 2

DISTAR READING PROGRAM: OMITTED DATA

FREQUENCY DISTRIBUTION

Continuation Status	BOYS		GIRLS	
	High-IQ	Low-IQ	High-IQ	Low-IQ
C.S. 2		2		
C.S. 3	7	6	7	4
C.S. 4	1	1	1	
C.S. 5		1		2

TABLE 3

TOTAL STUDENT POPULATION DISTRIBUTION

IQ Strata	CONTINUATION STATUS																							
	C.S. 1						C.S. 6						C.S. 7						Other C.S. Levels (2, 3, 4, 5)					
	Peabody Level P		Distar		Peabody/ Distar		Peabody Level P		Distar		Peabody/ Distar		Peabody Level P		Distar		Peabody/ Distar		Peabody Level P		Distar		Peabody/ Distar	
	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
66-70			1																					
61-65			1	1																				
56-60		1		1					4							1						1		
51-55			2	1			1		1	2					5						2	2		
46-50			5	3				1	10	6		1			10	8					6	4		
41-45	2		1	2			1	4	6	4					10	12					4	3	1	
36-40		1	1	2					2	6					6	4	1				5	4		
31-35	2		3		2		4	1	4	11	1				6	3							1	
26-30	1	2	3				3	1	3	2	1				2	2								
21-25		1					3		3						1						1			
below 21							2			1														
Proger																								

TABLE 4

PEABODY/DISTAR HYBRID PROGRAM

FREQUENCY DISTRIBUTION

Continuation Status	BOYS		GIRLS	
	High-IQ	Low-IQ	High-IQ	Low-IQ
C.S. 1		2		
C.S. 2		2		
C.S. 6		2	1	
C.S. 7		1		

INSTRUMENTS

A variety of measurement approaches were used in this study to tap as many different language-related skills as possible. A series of standardized and/or commonly used devices were employed. Also, a type of criterion-referenced measurement (CRM) was embodied in the intensive study of the Distar program.

With regard to standard measurement technology, several approaches were used. First, selected subtests of the Illinois Test of Psycholinguistic Abilities (ITPA: Revised) were given to all children. In particular, the Auditory Association, Visual Association, Verbal Expression, and Grammatic Closure subtests were selected (scaled scores only). Second, the Peabody Picture Vocabulary Test (Form B) was given (mental age). Third, the Spencer Memory for Sentences Test was used. Apart from these rountinely used devices, the Distar Reading Program Placement Test was also given to all children. The Placement Test is divided into Parts A, B, C, D, and E; in addition, a Total score is also yielded.

The second major phase of this study concerned only the Distar program itself. It was felt that an intensive investigation of the Distar program would reveal interesting facts about how language develops in TMR children subjected to a highly structured, commercially available program. The school year was divided into seven periods. At the end of each period, the lesson number in the books which the children were currently using was recorded and used as the data input. For each period, there were five possibilities: Book A, Book B, Book C, Story Book, and Coloring Book. Various schemes of reporting in-process Distar progress were explored prior to settling upon this final choice, but enormous problems arose in selecting a uniform, meaningful method of scaling. The lesson numbers seemed to be the most interpretable system of recording progress. In this sense, the data system is akin to a criterion-referenced measurement (CRM) system in which only absolute levels of performance are reported with no relative comparisons being made.

Finally, the Distar Placement Test needs some further elaboration. The Test (located in Book A, Part I, of Distar Language I: An Instructional System, by S. Engelmann, J. Osborn, and T. Engelmann, Chicago: Science Research Associates, 1972) consists of Segments A through E. Segemnt A contains 5 tasks, each of which deals with "Action and Identity Statements." For instance, a child would be asked to point to an animal and then asked what the animal was doing. The respective number of items for each Task is as follows: Task 1, 2; Task 2, 2: Task 3, 5; Task 4, 2; Task 5, a. Segment B deals with "Can/Is Action Statements." The child merely has to answer "yes" or "no" to such items. There are 6 such items. Segment C deals with "Polars," For instance, the child is asked whether something is long or short and merely has to answer "yes" or "no". There are 5 such items. Segment D deals with "Polars" also, but at a higher conceptual level. The child is shown a big object, for instance, but then is asked to tell about the opposite concept, a similar object. There are 4 items. Segment E deals with "Prepositions." There are 7 items.

DESIGN

The two basic sets of analyses in the third year of this project deal with the Peabody versus Distar comparisons and with the Distar intensive comparisons.

For the Peabody versus Distar phase, there were five factors: treatments (T), sex (S), continuation status (C), measures (M), and replicates (R). Replicates was taken as a random factor, while the other four factors were interpreted as fixed. To achieve equal cell frequencies in this design, five children were randomly sampled from each design cell. Thus, while treatments were not originally assigned in a random way (but rather in the real-life manner of what treatment would be most appropriate with a given child), the final design involved random sampling of children. Replicates were nested under the factors of treatments, sex, and continuation status. With the exception of replicates (which had five levels), all factors had two levels. While the factor of IQ might have been included, the design already was "saturated" with factors that did not allow any further stratifying of subjects if a reasonable number of children were to be kept in each cell. In terms of any differential bias that might exist in favor of a treatment, the pre-level of the test in question, as well as the previous experience of the children as indicated by continuation status, were deemed more crucial factors than IQ itself.

For the Distar intensive phase, three different sets of results were generated: (a) pretest-posttest results on the same criteria as in the Peabody versus Distar phase, but this time replacing treatments by IQ to obtain additional information on the Distar Program itself; (b) intra-year findings for each of the 7 periods (separately) of the school year that the project used for CRM data recording; and (c) intra-year data across all periods. In these regards, all three sets of intensive Distar analyses were loosely looked upon as "longitudinal" in nature. For (a), five factors were embodied: sex, IQ, continuation status, replicates, and measures. IQ was determined on an approximate, median-split basis, which in this study happened to be between 44 and 45; thus, the factor of IQ was random rather than fixed (that is, it was empirically determined rather than logically/arbitraily predetermined). Replicates was also taken at random. Sex, continuation status, and measures were all interpreted as fixed. All factors had two levels, with the exception of continuation status, which had three (E.S.1, C.S.6, and C.S.7), and replicates, which had 4 levels (4 randomly selected children from each categorical cell). For (b), measures as a factor was omitted. For (c), the few criteria that had complete data across all seven periods of the year employed the same kind of, and number of levels of, factors as in design (a) with the exception of measures, which now had seven levels.

From the above "Design" discussion, the reader should be able to visualize the nature of the three different designs used in this study: (a) Peabody versus Distar, (b) Distar Intensive Analyses (Single Criteria), and (c) Distar Intensive Analyses (Multiple Criteria). For design (a), the reader can easily see how it evolved from the C. S. 1 and C.S. 6 panels of Table 3 in the section on "Students."; for any other C.S. statuses, children had not been assigned to the Peabody Level P program. Table 5 further halps the reader to focus in on how the Peabody portion of design (a) was built. The reader can see the structure (prior to random sampling) for designs (b) and (c) in Table 6.

In all analyses, the BMDO8V program of the UCLA Viomedical series was used. The analyses were run on a CDC 6400 computer at Lehigh University, Bethlehem, Pennsylvania.

So that the reader understand in what manner the statistical tests of significance were carried out, it is necessary to describe briefly the error terms. In this discussion, several abbreviations will be used: T (treatments), S (sex), C (continuation status), M (Measures), and R (replicates) For design (a), the Peabody versus Distar phase of the study, the variance source to be tested for significance and its appropriate error term, are given respectively in pairs as follows: Mean, R (TSC); T, R (TSC); S, R (TSC); C, R (TSC); M, RM (TSC); TS, R(TSC); TC, R(TSC); SC, R(TSC); TM, RM (TSC); SM, RM (TSC) CM, RM (TSC) TSC, R(TSC); TSM, RM (TSC); TCM, RM (TSC); TSCM, RM (TSC); and RM (TSC), not tested:

For design (b), the Distar intensive analyses of single criteria, the variance source to be tested for significance and its appropriate error term, are given respectively in pairs as follows (Q denotes IQ) Mean, Q; S, SQ; Q, R(SQC); C, QC; SQ, R(SQC); SC, SQC; QC, R(SQC)1 SQC, R (SQC); and R(SQC), not tested.

For design (c), the Distar intensive analyses of multiple criteria, the variance source to be tested for significance and its appropriate error term. are given respectively in pairs as follows: Mean, Q; S, SQ; Q, R(SQC); C, QC; M, QM; SQ, RM(SQC); CM, QCM; SQC, R(SQC); SQM, RM(SQC); SCM, SQCM; QCM, RM(SQC); R(SQC), not tested; SQCM, RM(SWC); and RM(SWC), not tested.

TABLE 5

PEABODY LEVEL P PROGRAM FREQUENCY DISTRIBUTION

Continuation Status	BOYS	GIRLS
C.S. 1	5	5
C.S. 6	11	7

TABLE 6

DISTAR INTENSIVE STUDY

FREQUENCY DISTRIBUTION

Continuation Status	BOYS		GIRLS	
	High-IQ	Low-IQ	High-IQ	Low-IQ
C.S. 1	10	7	6	4
C.S. 6	14	19	9	23
C.S. 7	16	23	20	20

RESULTS

Peabody Versus Distar: Appendix A contains the appropriate Tables (7 to 30) for these comparisons. When one examines Tables 7 through 30, he needs to be aware of coding used in the cell means tables. For treatments, "1" denotes Peabody and "2" denotes Distar. For sex, "1" denotes boys and "2" denotes girls. For continuation status, "1" denotes C.S.1 and "2" denotes C.S. 6. For measures, "1" denotes pre and "2" denotes post. For IQ, "1" denotes low (44 and below) and "2" denotes high (45 and above).

Later in this report, under"discussion," the reader will be cautioned on the restrictions that pertain to this design. In brief, these constraints involve the self-selection bias built into the study by default, with the more language-advanced students receiving the Distar program. If there is a significant bias at work that contaminates treatment comparisons in any noticeable way, then this should be easily detectable by examining the interactions between treatments and measures; in particular, the pretest levels pitted against treatments should show the obvious differential biases at work. Out of a total of 12 analyses of Peabody-versus-Distar type, only two showed a significant treatments-by-measures interaction. These two results involved the criteria of Parts D and E of the Distar Placement Test. On all other criteria (Distar Placement Test: Total Score and Parts A through C; ITPA: Grammatic Closure, Auditory Association, Verbal Expression, and Visual Association; Spencer Memory for Sentences Test; and Peabody Picture Vocabulary Test) the treatments-by-measures interactions were insignificant. Because of this situation, the investigators decided to simply omit any discussion of the contaminated Parts D and E of the Distar Placement Test and to proceed very cautiously with the results of the remaining criteria.

Of primary interest to this study was the main effect of treatments. Of the 10 "uncontaminated criteria," the treatment main effect was significant in all cases except on ITPA Grammatic Closure and ITPA Visual Association. Of the 8 significant treatment effects, the Distar Program was clearly superior to the Peabody Program on all of the criteria except ITPA Auditory Association, on which the opposite finding occurred.

With regard to the other variables in the design, little was found except for measures. Sex yielded no differences in language activity except on ITPA Visual Association, on which boys were superior to girls. No difference at all was found among the 10 uncontaminated criteria for the variable of continuation status; apparently the previous, formal language experiences of the children had little effect. The variable of measures yielded significant main effects on each of the 10 criteria except on the Spencer Memory for Sentence Test. Thus gains uniformly occurred, regardless of treatments.

With regard to interactions on the 10 uncontaminated criteria, the only significant two-way result was for sex by continuation status on ITPA Visual Association; in particular, for C.S.6, girls performed significantly higher than boys, while for C.S.1 no difference occurred.

Fortunately, triple interactions were kept to a minimum on the 10 criteria of "uncontaminated" type. Thus, discussion of results is greatly simplified. The only exceptions were treatments by continuation status by measures on ITPA Verbal Expression, treatments by sex by continuation status on ITPA Visual Association, treatments by sex by measures on Distar Placement Test (Part A), and treatments by continuation status by measures on Distar Placement Test (Part C).

Distar Intensive Analyses (Pretest-Posttest Findings): Appendix B contains the results for this phase of the study (Tables 31 to 54). Basically, this series of analyses was the logical continuation of those presented in Appendix A and changed only in the sense of replacing the treatments factor with the IQ factor. The purpose of these analyses was to examine more intensively any trends that might be at work within the Distar Program itself (which was the main focus of interest of this third year of the project).

As with the Distar/Peabody analyses above, the pretest-posttest analyses again had 12 criteria. In no case did any sex differences arise, with the exception of a complex triple interaction among sex, IQ, and measures. On all but 4 of the criteria, IQ operated effectively in the expected direction to control some of the variation (the exceptions were ITPA Grammatic Closure, ITPA Auditory Association, ITPA Verbal Expression, and ITPA Visual Association). The latter finding again raises some validity problems on the ITPA, since an IQ difference would be expected on virtually all criteria. Continuation status produced no difference at all on any of the 12 criteria. Measures (pretest and posttest) was significant on only one criterion: Distar Placement Test (Part E).

Apart from the main effects, the only other results that might be taken note of were an IQ-by-measures interaction on four of the 12 criteria (Distar Placement Test: Total Score, Part A, and Part C; ITPA Visual Association). Two triple interactions (sex by continuation status by measures, and sex by IQ by measures) were also significant but are too complex to go into for brief summary purposes here.

Distar Intensive Analyses (Intra-Year Findings Separately for Each of 7 Periods): Appendix C contains the results for this phase of the study (Tables 55 to 98). This series of analyses looked at the CRM data that was yielded in day-to-day contacts with the program. The lesson numbers of Distar Book A, Distar Book B, Distar Book C, Distar Story Book, and Distar Coloring Book, were monitored for each child in the Distar Program at the end of each of 7 evenly spaced time periods throughout the school year. During certain periods one will notice that not all 5 possible lesson numbers were involved in the analyses (e.g., Period 1 has only Book A and Book B); this situation is merely a reflection of the fact that developmentally, the children did not begin using certain of the more advanced components (Book C, Story Book, and Coloring Book) until greater facility in language skills had been achieved at the lower levels (Books A and B).

There were a total of 22 CRM measures (as discussed earlier in the "Instruments" section) processed during this portion of the Distar Intensive Study. Of the three factors in the design (sex, IQ, and continuation status), only IQ resulted in any noticeable pattern of significant differences. Of the 22 CRM measures, only 6 did not yield a significant IQ difference (specifically, Distar Book A, Period 1; Distar Book B, Period 1; Distar Book C, Period 4; Distar Story Book, Period 5; Distar Book C, Period 6; Distar Story Book, Period 6; and Distar Book C, Period 7). There appears to be no real pattern to these nonsignificant differences, and little more need be said here.

The variables of sex and continuation status were consistent in that neither produced any significant differences. Inspection of the cell means tables in Appendix C shows why this situation arose.

Distar Intensive Analyses (Intra-Year Findings Across All 7 Periods): Appendix D (Tables 99 to 102) contain the results for this part of the study. Basically, the purpose was to look at those CRM Distar measures that provided data across all 7 periods of the school year. Only Books A and B yielded such data; this situation was a partial reflection of the develpppmental problems of the children and the resultant times at which they started Distar Books A,B, or C, or the Story Book, or the Coloring Book.

As one can see from the tables, sex and continuation status were insignificant on both Book A and Book B. The factor of IQ worked effectively to isolate some of the error variance; the significant difference was in the expected direction on both measures. The factor of measures resulted in significant progress being steadily shown throughout the school; in Book A, the lesson numbers ranged from 33.12 in Period 1 to 77.3 in Period 7, while in Book B, the range was from 31.42 in Book A to 77.23 in Period 7. The only other significant result was the IQ-by-measures interaction, on both criteria; no other interactions were significant on either criterion.

DISCUSSION

The results appear at first glance to be straightforward: the Distar program seems to produce more consistent benefits for TMR children. If one looks merely at the design and results, this is indeed the case. However, the real-life assignment of treatments placed a constraint upon the design that must be kept in perspective: the Distar program was given to children who had the most language facility, while the Peabody program was assigned to those children with the least language facility. Thus, if one looks at only the treatment factor alone without any other qualifications, the superiority of the Distar program is a distorted finding. However, if one begins to control the relative entry-level advantage that the Distar children had over the Peabody children, then a fairer comparrison arises. In particular, the factor of Measures allows one to qualify the findings fairly. First, one is interested in the extent to which the Distar children had an unfair "head start" over the Peabody children on the tests being used; the interaction of treatments-by-measures provides this information when one looks at the pre levels in the simple effects of the interaction. Second, if the pre-levels are not noticeably different, then the full gains themselves in that interaction can be looked upon in a more-or-less uncontaminated manner. One can see from the "Results" section above that with rare exceptions, this was not the case. This fact notwithstanding, the investigators still wish the reader to bear in mind that the Distar superiority should probably be considered more safely in the sense of being a reflection of the self-selecting diagnostic differences (i.e., the Distar children were diagnostically considered to be more facile with language than the Peabody children).

It should also be noted here that while the Peabody-versus-Distar comparisons of the third year should be treated cautiously due to the self-selection bias, the second year of this project did in fact embody a very "clean" comparison between the Peabody and the Distar programs (See R.H. Leiss & B.B. Proger, Language training for trainable mentally retarded; Annual project report; second year (Project No. 7202H);

available from ERIC as Document No. ED-097-789, 1974). In that second-year study, the low-IQ children were the ones who particularly were aided more by the Distar program than by the Peabody program. Thus, the results of the third-year study are reinforced by this fact alone, apart from trying to account for differential pretest levels by means of treatment-by-measures interactions of any order.

The Distar Intensive Study of this report was felt to be a safer type of data to analyze, in the sense that there were no distorted comparisons. The investigators think it highly interesting that continuation status had no effect at all. In other words, previous degree of formal language contact apparently in TMR children does not affect Distar language performance at all. In terms of the measures factor, the

Distar program does appear to produce a respectable degree of progress during a school year.

Finally, one always has to consider the nature of the criteria used in a study. The ITPA, often used as a reflection of language development, does not appear to do so in the case of TMR children. The use of Distar lesson numbers for the Intensive Study part of this investigation appears to be a fairly sound CRM meanner of interpreting data.

APPENDIX A

TABLES 7 TO 33 FOR

PEABODY VERSUS DISTAR COMPARISONS

TABLE 7

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: TOTAL SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	180.7035	17582.45	1	17892.45	.01
T (Treatment)	87.2271	8487.200	1	8487.200	.01
S (Sex)	.1156	11.25000	1	11.25000	N.S.
C (Cont. Status)	.2055	20.00000	1	20.00000	N.S.
M (Measures)	38.0590	500.0000	1	500.0000	.01
TS	.0082	.8000000	1	.8000000	N.S.
TC	1.4435	140.4500	1	140.4500	N.S.
SC	1.6115	156.8000	1	156.8000	N.S.
M	1.6784	22.05000	1	22.05000	N.S.
M	.9743	12.80000	1	12.80000	N.S.
M	.0951	1.250000	1	1.250000	N.S.
SC	.2718	26.45000	1	26.45000	N.S.
SM	.3083	4.050000	1	4.050000	N.S.
CM	3.8972	51.20000	1	51.20000	N.S.
CM	.4605	6.050000	1	6.050000	N.S.
(TSC)		3113.600	32	97.30000	- -
CM	.2436	3.200000	1	3.200000	N.S.
(TSC)		420.4000	32	13.13750	- -

TABLE 8

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: TOTAL SCORE

CELL MEANS

```
          T =          1           2
                 4.52500    25.12500
          S =          1           2
                14.45000    15.20000
          C =          1           2
                15.32500    14.32500
          M =          1           2
                12.32500    17.32500
          S =          1           2
     T =  1      4.25000     4.80000
          2     24.65000    25.60000
          C =          1           2
     T =  1      3.70000     5.35000
          2     26.35000    23.30000
          C =          1           2
     S =  1     13.55000    15.35000
          2     17.10000    13.30000
          T =  1
          C =          1           2
     S =  1      2.60000     5.90000
          2      4.90000     4.80000
          T =  2
          C =          1           2
     S =  1     24.50000    24.80000
          2     29.40000    21.80000
          T =  1     S =  1
          R =          1           2           3           4           5
     C =  1       .00000     2.00000     4.50000     2.00000     4.50000
          2      5.00000    12.50000     3.50000     8.50000      .00000
          T =  1     S =  2
          R =          1           2           3           4           5
     C =  1       .00000    14.50000     6.50000     2.00000     1.00000
          2     12.00000     7.50000     3.50000      .00000     1.00000
          T =  2     S =  1
          R =          1           2           3           4           5
     C =  1     34.50000    22.50000     9.50000    28.50000    27.50000
          2     15.00000    31.00000    11.00000    35.00000    32.00000
          T =  2     S =  2
          R =          1           2           3           4           5
     C =  1     26.50000    35.00000    23.50000    29.00000    28.00000
          2      9.50000    24.00000    29.00000    17.00000    30.50000
```

TABLE 9

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: PART A

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	205.0169	3175.200	1	3175.200	.01
T (Treatment)	82.6473	1280.000	1	1280.000	.01
S (Sex)	.8265	12.80000	1	12.80000	N.S.
C (Cont. Status)	.2615	4.050000	1	4.050000	N.S.
M (Measures)	26.2295	80.00000	1	80.00000	.01
TS	.8265	12.80000	1	12.80000	N.S.
TC	.7264	11.25000	1	11.25000	N.S.
SC	.3906	6.050000	1	6.050000	N.S.
TM	.0656	.2000000	1	.2000000	N.S.
SM	1.6393	5.000000	1	5.000000	N.S.
CM	.4098	1.250000	1	1.250000	N.S.
TSC	.0807	1.250000	1	1.250000	N.S.
TSM	4.1967	12.80000	1	12.80000	.05
TCM	.4098	1.250000	1	1.250000	N.S.
SCM	.1475	.4500000	1	.4500000	N.S.
R (TSC)		495.6000	32	15.48750	- -
TSCM	.1475	.4500000	1	.4500000	N.S.
RM (TSC)		97.60000	32	3.050000	

TABLE 10

PEABODY VERSUS DISTAR

DISTAR PLACEMENT: PART A

CELL MEANS

```
          T =        1             2
                  2.30000      10.30000
          S =        1             2
                  5.90000       6.70000
          C =        1             2
                  6.52500       6.07500
          M =        1             2
                  5.30000       7.30000
          S =        1             2
     T =  1       2.30000       2.30000
          2       9.50000      11.10000
          C =        1             2
     T =  1       2.15000       2.45000
          2      10.90000       9.70000
          C =        1             2
     S =  1       5.85000       5.95000
          2       7.20000       6.20000
          T =  1
          C =        1             2
     S =  1       2.00000       2.60000
          2       2.30000       2.30000
          T =  2
          C =        1             2
     S =  1       9.70000       9.30000
          2      12.10000      10.10000
          T =  1        S =  1
          R =
                     1             2              3              4              5
     C =  1        .00000       2.00000        3.00000        2.00000        3.00000
          2       3.50000       4.50000        2.00000        3.00000         .00000
          T =  1        S =  2
          R =
                     1             2              3              4              5
     C =  1        .00000       8.00000         .50000        2.00000        1.00000
          2       6.00000       2.50000        2.00000         .00000        1.00000
          T =  2        S =  1
          R =
                     1             2              3              4              5
     C =  1      13.00000      11.50000        5.00000       10.00000        9.00000
          2       3.00000      11.50000        6.50000       13.00000       12.50000
          T =  2        S =  2
          R =
                     1             2              3              4              5
     C =  1      11.50000      13.00000       13.00000       12.50000       10.50000
          2       4.50000       9.50000       13.00000       10.50000       13.00000
```

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: PART B

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	182.3461	744.2000	1	744.2000	.01
T (Treatment)	67.0873	273.8000	1	273.8000	.01
S (Sex)	.1103	.4500000	1	.4500000	N.S.
C (Cont. Status)	.1103	.4500000	1	.4500000	N.S.
M (Measures)	20.0569	26.45000	1	26.45000	.01
TS	.1103	.4500000	1	.4500000	N.S.
TC	2.7565	11.25000	1	11.25000	N.S.
SC	2.4012	9.800000	1	9.800000	N.S.
TM	.3079	.5000000E-01	1	.5000000E-01	N.S.
SM	1.3649	1.800000	1	1.800000	N.S.
CM	3.7915	5.000000	1	5.000000	N.S.
TSC	.0000	-.7389644E-12	1	-.7389644E-12	N.S.
TSM	1.3649	1.800000	1	1.800000	N.S.
TCM	2.4265	3.200000	1	3.200000	N.S.
SCM	.3412	.4500000	1	.4500000	N.S.
R (TSC)		130.6000	32	4.081250	- -
TSCM	.0379	.5000000E-01	1	.5000000E-01	N.S.
RM (TSC)		42.20000	32	1.318750	

TABLE 12

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: PART B

CELL MEANS

```
      T =         1             2
              1.20000       4.90000
      S =         1             2
              3.12500       2.97500
      C =         1             2
              2.97500       3.12500
      M =         1             2
              2.47500       3.62500
      S =         1             2
  T =  1      1.20000       1.20000
       2      5.05000       4.75000
      C =         1             2
  T =  1       .75000       1.65000
       2      5.20000       4.60000
      C =         1             2
  S =  1      2.70000       3.55000
       2      3.25000       2.70000
      T =  1
      C =         1             2
  S =  1       .40000       2.00000
       2      1.10000       1.30000
      T =  2
      C =         1             2
  S =  1      5.00000       5.10000
       2      5.40000       4.10000
      T =  1      S =  1
      R =         1             2             3             4             5
  C =  1       .00000        .00000       1.50000        .00000        .50000
       2      1.00000       4.50000       1.50000       3.00000        .00000
      T =  1      S =  2
      R =         1             2             3             4             5
  C =  1       .00000       2.50000       3.00000        .00000        .00000
       2      3.00000       2.00000       1.50000        .00000        .00000
      T =  2      S =  1
      R =         1             2             3             4             5
  C =  1      6.00000       5.00000       2.00000       6.00000       6.00000
       2      6.00000       5.50000       2.50000       6.00000       5.50000
      T =  2      S =  2
      R =         1             2             3             4             5
  C =  1      4.50000       6.00000       5.00000       5.50000       6.00000
       2      2.50000       5.50000       4.50000       2.00000       6.00000
```

TABLE 13

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: PART C

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	151.8835	505.0125	1	505.0125	.01
T (Treatment)	62.5602	208.0125	1	208.0125	.01
S (Sex)	.1842	.6125000	1	.6125000	N.S.
C (Cont. Status)	.4549	1.512500	1	1.512500	N.S.
M (Measures)	8.4949	10.51250	1	10.51250	.01
TS	.0940	.3125000	1	.3125000	N.S.
TC	.6353	2.112500	1	2.112500	N.S.
SC	1.3571	4.512500	1	4.512500	N.S.
TM	.2525	.3125000	1	.3125000	N.S.
SM	1.7071	2.112500	1	2.112500	N.S.
CM	.0101	.1250000E-01	1	.1250000E-01	N.S.
TSC	.0038	.1250000E-01	1	.1250000E-01	N.S.
TSM	.0101	.1250000E-01	1	.1250000E-01	N.S.
TCM	6.3131	7.812500	1	7.812500	.05
SCM	.0101	.1250000E-01	1	.1250000E-01	N.S.
R (TSC)		106.4000	32	3.325000	- -
TSCM	.0909	.1125000	1	.1125000	N.S.
RM (TSC)		39.60000	32	1.237500	- -

Proger

TABLE 14

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: PART C

CELL MEANS

```
       T =          1             2
                 .90000        4.12500
       S =          1             2
                2.42500        2.60000
       C =          1             2
                2.37500        2.65000
       M =          1             2
                2.15000        2.87500
       S =          1             2
  T =   1         .75000        1.05000
        2       4.10000        4.15000
       C =          1             2
  T =   1         .60000        1.20000
        2       4.15000        4.10000
       C =          1             2
  S =   1       2.05000        2.80000
        2       2.70000        2.50000
       T =   1
       C =          1             2
  S =   1         .20000        1.30000
        2       1.00000        1.10000
       T =   2
       C =          1             2
  S =   1       3.90000        4.30000
        2       4.40000        3.90000
       T =   1     S =   1
       R =          1             2             3             4             5
  C =   1         .00000         .00000        .00000        .00000       1.00000
        2         .50000        3.50000        .00000       2.50000        .00000
       T =   1     S =   2
       R =          1             2             3             4             5
  C =   1         .00000        2.00000       3.00000        .00000        .00000
        2       3.00000        2.50000        .00000        .00000        .00000
       T =   2     S =   1
       R =          1             2             3             4             5
  C =   1       5.00000        2.50000       2.50000       4.50000       5.00000
        2       5.00000        4.50000       2.00000       5.00000       5.00000
       T =   2.    S =   2
       R =          1             2             3             4             5
  C =   1       3.50000        5.00000       5.00000       3.50000       5.00000
        2       1.50000        4.50000       5.00000       3.50000       5.00000
```

TABLE 15

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: PART D

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	41.1168	101.2500	1	101.2500	.01
T (Treatment)	39.3096	96.80000	1	96.80000	.01
S (Sex)	.0000	.0	1	.0	N.S.
C (Cont. Status)	2.0305	5.000000	1	5.000000	N.S.
M (Measures)	16.0000	3.200000	1	3.200000	.01
TS	.0203	.5000000E-01	1	.5000000E-01	N.S.
TC	2.4569	6.050000	1	6.050000	N.S.
SC	.5076	1.250000	1	1.250000	.01.
M	12.2500	2.450000	1	2.450000	N.S.
M	.2500	.5000000E-01	1	.5000000E-01	N.S.
M	.2500	.5000000E-01	1	.5000000E-01	N.S.
SC	.7310	1.800000	1	1.800000	N.S.
SM	.0000	-.7389644E-12	1	-.7389644E-12	N.S.
M	1.0000	.2000000	1	.2000000	N.S.
M	1.0000	.2000000	1	.2000000	N.S.
(TSC)		78.80000	32	2.462500	- -
CM	2.2500	.4500000	1	.4500000	N.S.
(TSC)		6.400000	32	.2000000	- -

TABLE 16

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: PART D

CELL MEANS

```
         T =          1            2
                   .02500       2.22500
         S =          1            2
                  1.12500       1.12500
         C =          1            2
                  1.37500        .87500
         M =          1            2
                   .92500       1.32500
         S =          1            2
    T =   1        .00000        .05000
          2       2.25000       2.20000
         C =          1            2
    T =   1        .00000        .05000
          2       2.75000       1.70000
         C =          1            2
    S =   1       1.25000       1.00000
          2       1.50000        .75000
         T =   1
         C =          1            2
    S =   1        .00000        .00000
          2        .00000        .10000
         T =   2
         C =          1            2
    S =   1       2.50000       2.00000
          2       3.00000       1.40000
         T =   1      S =   1
         R =          1            2            3            4            5
    C =   1        .00000        .00000       .00000       .00000       .00000
          2        .00000        .00000       .00000       .00000       .00000
         T =   1      S =   2
         R =          1            2            3            4            5
    C =   1        .00000        .00000       .00000       .00000       .00000
          2        .00000        .50000       .00000       .00000       .00000
         T =   2      S =   1
         R =          1            2            3            4            5
    C =   1       4.00000       1.00000       .00000      3.50000      4.00000
          2        .00000       3.00000       .00000      4.00000      3.00000
         T =   2      S =   2
         R =          1            2            3            4            5
    C =   1       2.50000       4.00000      3.00000      3.00000      2.50000
          2        .00000       1.00000      4.00000       .50000      1.50000
```

TABLE 17

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: PART E

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	43.9207	270.1125	1	270.1125	.01
T (Treatment)	39.2703	241.5125	1	241.5125	.01
S (Sex)	.0183	.1125000	1	.1125000	N.S.
C (Cont. Status)	.7337	4.512500	1	4.512500	N.S.
M (Measures)	17.5208	10.51250	1	10.51250	.01
TS	.2459	1.512500	1	1.512500	N.S.
TC	.2459	1.512500	1	1.512500	N.S.
SC	2.2134	13.61250	1	13.61250	N.S.
TM	9.1875	5.512500	1	5.512500	.01
SM	2.5208	1.512500	1	1.512500	N.S.
CM	6.0208	3.612500	1	3.612500	.05
TSC	1.2703	7.812500	1	7.812500	N.S.
TSM	.1875	.1125000	1	.1125000	N.S.
TCM	1.6875	1.012500	1	1.012500	N.S.
SCM	7.5208	4.512500	1	4.512500	.01
S (TSC)		196.8000	32	6.150000	- -
SCM	2.5208	1.512500	1	1.512500	N.S.
SM (TSC)		19.20000	32	.6000000	

Proger

TABLE 18

PEABODY VERSUS DISTAR

DISTAR PLACEMENT TEST: PART E

CELL MEANS

```
         T =       1           2
                 .10000      3.57500
         S =       1           2
                1.87500      1.80000
         C =       1           2
                2.07500      1.60000
         M =       1           2
                1.47500      2.20000
         S =       1           2
    T =   1      .00000       .20000
          2     3.75000      3.40000
         C =       1           2
    T =   1      .20000       .00000
          2     3.95000      3.20000
         C =       1           2
    S =   1     1.70000      2.05000
          2     2.45000      1.15000
         T =   1
         C =       1           2
    S =   1      .00000       .00000
          2      .40000       .00000
         T =   2
         C =       1           2
    S =   1     3.40000      4.10000
          2     4.50000      2.30000
         T =   1     S =   1
         R =       1           2           3           4           5
    C =   1      .00000       .00000      .00000      .00000      .00000
          2      .00000       .00000      .00000      .00000      .00000
         T =   1     S =   2
         R =       1           2           3           4           5
    C =   1      .00000      2.00000      .00000      .00000      .00000
          2      .00000       .00000      .00000      .00000      .00000
         T =   2     S =   1
         R =       1           2           3           4           5
    C =   1     6.50000      2.50000      .00000     4.50000     3.50000
          2     1.00000      6.50000      .00000     7.00000     6.00000
         T =   2     S =   2
         R =       1           2           3           4           5
    C =   1     4.50000      7.00000     2.50000     4.50000     4.00000
          2      .00000      3.50000     2.50000      .50000     5.00000
```

TABLE 17

PEABODY VERSUS DISTAR

ITPA: GRAMMATIC CLOSURE SCALED SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	984.0708	86198.45	1	86198.45	.01
T (Treatment)	.2080	2.450000	1	2.450000	N.S.
S (Sex)	.4161	36.45000	1	36.45000	N.S.
C (Cont. Status)	.0143	1.250000	1	1.250000	N.S.
M (Measures)	9.4775	88.20000	1	88.20000	.01
TS	.0965	8.450000	1	8.450000	N.S.
TC	.7814	68.45000	1	68.45000	N.S.
SC	3.0419	266.4500	1	266.4500	N.S.
TM	.0860	.8000000	1	.8000000	N.S.
SM	1.7408	16.20000	1	16.20000	N.S.
CM	.5373	5.000000	1	5.000000	N.S.
TSC	1.3705	120.0500	1	120.0500	N.S.
TSM	.0860	.8000000	1	.8000000	N.S.
TCM	.0215	.2000000	1	.2000000	N.S.
SCM	.7737	7.200000	1	7.200000	N.S.
R (TSC)		2803.000	32	87.59375	- -
Proger SCM	.0860	.8000000	1	.8000000	N.S.
TM (TSC)		297.8000	32	9.306250	- -

TABLE 20

PEABODY VERSUS DISTAR

ITPA: GRAMMATIC CLOSURE SCALED SCORE

CELL MEANS

```
          T =       1            2
              32.65000     33.00000
          S =       1            2
              32.15000     37.50000
          C =       1            2
              32.70000     32.95000
          M =       1            2
              31.77500     33.87500
          S =       1            2
      T =   1 32.30000     33.00000
            2 32.00000     34.00000
          C =       1            2
      T =   1 33.45000     31.85000
            2 31.95000     34.05000
          C =       1            2
      S =   1 33.85000     30.45000
            2 31.55000     35.45000
          T =   1
          C =       1            2
      S =   1 33.70000     30.90000
            2 33.20000     32.80000
          T =   2
          C =       1            2
      S =   1 34.00000     30.00000
            2 29.90000     38.10000
          T =   1     S =   1
          R =       1            2            3            4            5
      C =   1 35.00000     30.50000     35.00000     35.00000     33.00000
            2 26.00000     29.00000     33.00000     33.50000     33.00000
          T =   1     S =   2
          R =       1            2            3            4            5
      C =   1 33.00000     34.00000     31.00000     33.00000     35.00000
            2 36.00000     32.00000     30.00000     33.00000     33.00000
          T =   2     S =   1
          R =       1            2            3            4            5
      C =   1 41.50000     36.00000     31.00000     30.50000     31.00000
            2 13.00000     24.50000     35.00000     36.50000     41.00000
          T =   2     S =   2
          R =       1            2            3            4            5
      C =   1 30.00000     27.00000     33.50000     24.50000     34.50000
            2 31.00000     57.00000     31.50000     26.00000     45.00000
```

TABLE 21

PEABODY VERSUS DISTAR

ITPA: AUDITORY ASSOCIATION SCALED SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	28.0382	80835.61	1	80835.61	.01
T (Treatment)	5.8156	382.8125	1	382.8125	.01
S (Sex)	.0093	.6125000	1	.6125000	N.S.
C (Cont. Status)	.0837	5.512500	1	5.512500	N.S.
M (Measures)	6.4787	108.1125	1	108.1125	.05
TS	.0047	.3125000	1	.3125000	N.S.
TC	.5334	35.11250	1	35.11250	N.S.
SC	2.8730	189.1125	1	189.1125	N.S.
TM	.3303	5.512500	1	5.512500	N.S.
SM	2.9730	49.61250	1	49.61250	N.S.
CM	.7199	12.01250	1	12.01250	N.S.
TSC	2.7803	183.0125	1	183.0125	N.S.
TSM	.0067	.1125000	1	.1125000	N.S.
TCM	3.7760	63.01250	1	63.01250	N.S.
SCM	.2704	4.512500	1	4.512500	N.S.
R (TSC)		2106.400	32	65.82500	- -
Proper SCM	.2165	3.612500	1	3.612500	N.S.
PM (TSC)		534.0000	32	16.68750	- -

TABLE 22

PEABODY VERSUS DISTAR

ITPA: AUDITORY ASSOCIATION SCALED SCORE

CELL MEANS

```
        T =        1            2
                33.97500     29.60000
        S =        1            2
                31.87500     31.70000
        C =        1            2
                31.52500     32.05000
        M =        1            2
                30.62500     32.95000
        S =        1            2
   T =   1      34.00000     33.95000
         2      29.75000     29.45000
        C =        1            2
   T =   1      33.05000     34.90000
         2      30.00000     29.20000
        C =        1            2
   S =   1      33.15000     30.60000
         2      29.90000     33.50000
        T =   1
        C =        1            2
   S =   1      33.10000     34.90000
         2      33.00000     34.90000
        T =   2
        C =        1            2
   S =   1      33.20000     26.30000
         2      26.80000     32.10000
        T =   1       S =   1
        R =        1            2            3            4            5
   C =   1      33.00000     28.00000     36.00000     35.50000     33.00000
         2      35.50000     35.00000     34.00000     37.00000     33.00000
        T =   1       S =   2
        R =        1            2            3            4            5
   C =   1      33.00000     34.00000     31.00000     33.00000     34.00000
         2      34.50000     38.50000     30.50000     33.00000     34.00000
        T =   2       S =   1
        R =        1            2            3            4            5
   C =   1      30.00000     34.50000     32.00000     30.00000     39.50000
         2       6.00000     17.50000     33.00000     38.00000     37.00000
        T =   2       S =   2
        R =        1            2            3            4            5
   C =   1      25.50000     31.50000     28.50000     23.00000     25.50000
         2      35.00000     35.00000     34.50000     28.00000     29.00000
```

TABLE 23

PEABODY VERSUS DISTAR

ITPA: VERBAL EXPRESSION SCALED SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	72.3521	84695.11	1	84695.11	.01
T (Treatment)	7.7033	556.5125	1	566.5125	.01
S (Sex)	1.5616	112.8125	1	112.8125	N.S.
C (Cont. Status)	.5234	37.81250	1	37.81250	N.S.
M (Measures)	14.9717	241.5125	1	241.5125	.01
TS	1.4328	103.5125	1	103.5125	N.S.
TC	.0043	.3215000	1	.3215000	N.S.
SC	.5234	37.81250	1	37.81250	N.S.
TM	2.1767	35.11250	1	35.11250	N.S.
SM	3.4785	56.11250	1	56.11250	N.S.
CM	1.1786	19.01250	1	19.01250	N.S.
TSC	.7310	52.81250	1	52.81250	N.S.
TSM	2.3441	37.81250	1	37.81250	N.S.
TCM	4.3588	70.31250	1	70.31250	.05
SCM	1.4328	23.11250	1	23.11250	N.S.
R (TSC)		23.11250	32	72.24375	- -
TSCM	1.5692	25.31250	1	25.31250	N.S.
RM (TSC)		516.2000	32	16.13125	- -

Proper

TABLE 24

PEABODY VERSUS DISTAR

ITPA: VERBAL EXPRESSION SCALED SCORE

CELL MEANS

```
        T =        1              2
               29.30000       35.17500
        S =        1              2
               33.72500       31.35000
        C =        1              2
               33.22500       31.85000
        H =        1              2
               30.80000       34.27500
        S =        1              2
   T =  1      29.35000       29.85000
        2      37.50000       32.85000
        C =        1              2
   T =  1      30.65000       29.15000
        2      35.90000       34.55000
        C =        1              2
   S =  1      35.10000       32.35000
        2      31.35000       31.35000
        T =  1
        C =        1              2
   S =  1      32.20000       27.70000
        2      29.10000       30.60000
        T =  2
        C =        1              2
   S =  1      38.00000       37.00000
        2      33.60000       32.10000
        T =  1      S =  1
        R =        1              2              3              4              5
   C =  1      28.00000       36.00000       36.00000       31.00000       30.00000
        2      29.00000       25.50000       29.00000       29.00000       26.00000
        T =  1      S =  2
        R =        1              2              3              4              5
   C =  1      27.00000       33.00000       26.00000       31.50000       28.00000
        2      32.50000       38.50000       27.00000       26.00000       29.00000
        T =  2      S =  1
        R =        1              2              3              4              5
   C =  1      33.50000       44.50000       36.00000       39.50000       36.50000
        2      19.00000       35.50000       32.00000       50.00000       48.50000
        T =  2      S =  2
        R =        1              2              3              4              5
   C =  1      27.50000       34.50000       36.50000       34.50000       35.00000
        2      36.00000       21.50000       38.50000       30.00000       34.50000
```

TABLE 25

PEAPODY VERSUS DISTAR

ITPA: VISUAL ASSOCIATION SCALED SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	76.5814	98841.80	1	98841.80	.01
T (Treatment)	.9219	57.80000	1	57.80000	N.S.
S (Sex)	6.1761	387.2000	1	387.2000	.05
C (Cont. Status)	.0287	1.800000	1	1.800000	N.S.
M (Measures)	16.9043	328.0500	1	328.0500	.01
TS	8.9610	561.8000	1	561.8000	.01
TC	.1148	7.200000	1	7.200000	N.S.
SC	6.1761	387.2000	1	387.2000	.05
TM	3.9188	76.05000	1	76.05000	N.S.
SM	.7446	14.45000	1	14.45000	N.S.
CM	1.1362	22.05000	1	22.05000	N.S.
TSC	7.9753	500.0000	1	500.0000	.01
TSM	.9301	18.05000	1	18.05000	N.S.
TCM	2.8058	54.45000	1	54.45000	N.S.
SCM	3.5272	68.45000	1	68.45000	N.S.
R (TSC)		2006.200	32	62.69385	- -
TSCM	2.8058	54.45000	1	54.45000	N.S.
[illegible]M (TSC)		621.0000	32	19.40625	- -

Proger

TABLE 26

PEABODY VERSUS DISTAR

ITPA: VISUAL ASSOCIATION SCALED SCORE

CELL MEANS

```
         T =         1             2
                36.00000      34.30000
         S =         1             2
                37.35000      32.95000
         C =         1             2
                35.30000      35.00000
         H =         1             2
                33.12500      37.17500
         S =         1             2
    T =  1      35.55000      36.45000
         2      39.15000      29.45000
         C =         1             2
    T =  1      35.85000      36.15000
         2      34.75000      33.85000
         C =         1             2
    S =  1      35.30000      39.40000
         2      35.30000      30.60000
         T =  1
         C =         1             2
    S =  1      35.70000      35.40000
         2      36.00000      36.90000
         T =  2
         C =         1             2
    S =  1      34.90000      43.40000
         2      34.60000      24.30000
         T =  1     S =  1
         R =         1             2              3              4              5
    C =  1      33.00000      31.00000       39.50000       37.50000       37.50000
         2      37.00000      31.00000       37.50000       38.50000       33.00000
         T =  1     S =  2
         R =         1             2              3              4              5
    C =  1      33.00000      32.00000       35.00000       44.00000       36.00000
         2      40.00000      37.00000       35.00000       38.50000       34.00000
         T =  2     S =  1
         R =         1             2              3              4              5
    C =  1      34.50000      36.00000       32.00000       32.50000       37.50000
         2      40.50000      38.00000       57.00000       41.00000       40.50000
         T =  2     S =  2
         R =         1             2              3              4              5
    C =  1      36.50000      42.00000       35.00000       27.00000       32.50000
         2      33.00000      19.00000       35.00000       10.50000       24.00000
```

TABLE 27

PEABODY VERSUS DISTAR

SPENCER MEMORY FOR SENTENCE TEST

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	17.4862	122.5125	1	122.5125	.01
T (Treatment)	13.5040	94.61250	1	94.61250	.01
S (Sex)	.9438	6.612500	1	6.612600	N.S.
C (Cont. Status)	.4014	2.812500	1	2.812500	N.S.
M (Measures)	.0220	.1250000E-01	1	.1250000E-01	N.S.
TS	1.3006	9.112500	1	9.112500	N.S.
TC	.9438	6.612500	1	6.612500	N.S.
SC	.6441	4.512500	1	4.512500	N.S.
TM	.1978	.1125000	1	.1125000	N.S.
SM	1.7802	1.012500	1	1.012500	N.S.
CM	3.7143	2.112500	1	2.112500	N.S.
TSC	.2159	1.512500	1	1.512500	N.S.
TSM	.5495	.3125000	1	.3125000	N.S.
TCM	3.7143	2.112500	1	2.112500	N.S.
SCM	.5495	.3125000	1	.3125000	N.S.
R (TSC)		224.2000	32	7.006250	- -
SCM	.5495	.3125000	1	.3125000	N.S.
RM (TSC)		18.20000	32	.5687500	

Proger

TABLE 28

PEABODY VERSUS DISTAR

SPENCER MEMORY FOR SENTENCE TEST

CELL MEANS

```
        T =          1             2
                  .15000        2.32500
        S =          1             2
                  .95000        1.52500
        C =          1             2
                 1.05000        1.42500
        M =          1             2
                 1.25000        1.22500
        S =          1             2
   T =  1         .20000         .10000
        2        1.70000        2.95000
        C =          1             2
   T =  1         .25000         .05000
        2        1.35000        2.60000
        C =          1             2
   S =  1        1.00000         .90000
        2        1.10000        1.95000
        T =   1
        C =          1             2
   S =  1         .40000         .00000
        2         .10000         .10000
        T =   2
        C =          1             2
   S =  1        1.60000        1.80000
        2        2.10000       ,3.80000
        T =   1     S =   1
        R =          1             2              3              4              5
   C =  1         .00000         .00000        2.00000         .00000         .00000
        2         .00000         .00000         .00000         .00000         .00000
        T =   1     S =   2
        R =          1             2              3              4              5
   C =  1         .00000         .50000         .00000         .00000         .00000
        2         .50000         .00000         .00000         .00000         .00000
        T =   2     S =   1
        R =          1             2              3              4              5
   C =  1        5.00000        1.50000         .00000        1.00000         .50000
        2         .00000        2.00000         .00000        6.00000        1.00000
        T =   2     S =   2
        R =          1             2              3              4              5
   C =  1        1.00000        4.50000        2.50000        2.00000         .50000
        2         .00000        9.00000        2.50000        1.00000        6.50000
```

Proger

PEABODY VERSUS DISTAR

PEABODY PICTURE VOCABULARY TEST MENTAL AGE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	192.5821	181165.6	1	181165.6	.01
T (Treatment)	19.8748	18696.61	1	18696.61	.01
S (Sex)	1.0196	959.1125	1	959.1125	N.S.
C (Cont. Status)	.1053	99.01250	1	99.01250	N.S.
M (Measures)	9.0333	465.6125	1	465.6125	.01
TS	.1149	108.1125	1	108.1125	N.S.
TC	1.9492	1833.612	1	1833.612	N.S.
SC	.4069	382.8125	1	382.8125	N.S.
TM	.8442	43.51250	1	43.51250	N.S.
SM	3.6690	189.1125	1	189.1125	N.S.
CM	.0196	1.012500	1	1.012500	N.S.
TSC	.6608	621.6125	1	621.6125	N.S.
TSM	1.8356	94.61250	1	94.61250	N.S.
TCM	.0410	2.112500	1	2.112500	N.S.
SCM	.0119	.6125000	1	.6125000	N.S.
R (TSC)		30103.00	32	940.7187	- -
SCM	.1069	5.512500	1	5.512500	N.S.
M (TSC)		1649.400	32	51.54375	

Proper

TABLE 30

PEABODY VERSUS DISTAR

PEABODY PICTURE VOCABULARY TEST MENTAL AGE

CELL MEANS

```
         T =       1            2
                32.30000     62.87500
         S =       1            2
                51.05000     44.12500
         C =       1            2
                46.47500     48.70000
         M =       1            2
                45.17500     50.00000
         S =       1            2
   T =   1      34.60000     30.00000
         2      67.50000     58.25000
         C =       1            2
   T =   1      26.40000     38.20000
         2      66.55000     59.20000
         C =       1            2
   S =   1      47.75000     54.35000
         2      45.20000     43.05000
         T =   1
         C =       1            2
   S =   1      29.30000     39.90000
         2      23.50000     36.50000
         T =   2
         C =       1            2
   S =   1      66.20000     68.80000
         2      66.90000     49.60000
         T =   1      S =   1
         R =       1            2            3            4            5
   C =   1      12.50000     37.00000     32.00000     36.50000     28.50000
         2      65.00000     46.50000     28.50000     36.50000     21.50000
         T =   1      S =   2
         R =       1            2            3            4            5
   C =   1      10.00000     34.50000     27.00000     22.00000     24.00000
         2      36.00000     41.50000     46.00000     26.50000     32.50000
         T =   2      S =   1
         R =       1            2            3            4            5
   C =   1     107.00000     63.00000     32.50000     51.50000     77.00000
         2      73.00000     76.50000     12.50000     98.00000     84.00000
         T =   2      S =   2
         R =       1            2            3            4            5
   C =   1      44.00000    100.50000     64.50000     39.00000     86.50000
         2      45.50000     10.00000     81.00000     57.00000     54.50000
```

APPENDIX B

TABLES FOR DISTAR INTENSIVE STUDY: PRETEST - POSTTEST ANALYSES

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: TOTAL SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	66.4073	71722.67	1	71722.67	N.S.
S (SEX)	.4649	84.37500	1	84.37500	N.S.
Q (I.Q.)	9.7692	1080.042	1	1080.042	.01
C (Cont. Status)	.8289	112.0208	2	56.01042	N.S.
M (Measurement)	13.5056	900.3750	1	900.3750	N.S.
SQ	1.6417	181.5000	1	181.5000	N.S.
SC	.4344	86.68750	2	43.34375	N.S.
QC	.6112	135.1458	2	67.57292	N.S.
SM	.9070	16.66667	1	16.66667	N.S.
QM	5.7554	66.66667	1	66.66667	.05
CM	.3609	21.43750	2	10.71875	N.S.
SQC	.9025	199.5625	2	99.78125	N.S.
SQM	1.5863	18.37500	1	18.37500	N.S.
SCM	23.4444	30.77083	2	15.38542	.05
QCM	2.5638	59.39583	2	29.69792	N.S.
R(SQC)		3980.000	36	110.5556	- -
SQCM	.0567	1.312500	2	.6562500	N.S.
RM(SQC)		417.0000	36	11.58333	- -

Proger 1

TABLE 32

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: TOTAL SCORE

CELL MEANS

```
      S =          1             2
              26.39583      28.27083
      O =          1             2
              30.68750      23.97917
      C =          1             2             3
              27.03125      26.18750      28.78125
      M =          1             2
              24.27083      30.39583
      Q =          1             2
  S =  1      31.12500      21.66667
       2      30.25000      26.29167
      C =          1             2             3
  S =  1      27.43750      24.56250      27.18750
       2      26.62500      27.81250      30.37500
      C =          1             2             3
  Q =  1      28.93750      31.00000      32.12500
       2      25.12500      21.37500      25.43750
      S =  1
      C =          1             2             3
  Q =  1      32.50000      29.00000      31.87500
       2      22.37500      20.12500      22.50000
      S =  2
      C =          1             2             3
  Q =  1      25.37500      33.00000      32.37500
       2      27.87500      2[illegible].62500      28.37500
      S =  1     Q =  1
      R =          1             2             3             4
  C =  1      29.00000      33.50000      34.50000      33.00000
       2      31.00000      31.50000      22.00000      31.50000
       3      30.50000      30.50000      34.50000      32.00000
      S =  1     Q =  2
      R =          1             2             3             4
  C =  1      22.50000       9.50000      23.50000      34.00000
       2      28.50000      16.50000       7.00000      28.50000
       3      35.00000      29.50000      14.50000      11.00000
      S =  2     Q =  1
      R =          1             2             3             4
  C =  1      10.00000      26.50000      35.00000      30.00000
       2      30.50000      32.50000      35.00000      34.00000
       3      34.00000      32.50000      34.50000      28.50000
      S =  2     Q =  2
      R =          1             2             3             4
  C =  1      26.00000      28.50000      29.00000      28.00000
       2      34.00000      16.50000      31.50000       8.50000
       3      24.50000      27.00000      30.50000      31.50000
```

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART A

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	193.4628	11948.34	1	11948034	.05
S (SEX)	.0249	.8437500	1	.8437500	N.S.
Q (I.Q.)	5.2177	61.76042	1	61.76042	.05
C (Cont. Status)	.8073	20.25000	2	10.12500	N.S.
M (Measurement)	7.8762	78.84375	1	78.84375	N.S.
SQ	2.8592	33.84375	1	88.84375	N.S.
SC	1.0278	9.250000	2	4.625000	N.S.
QC	1.0595	25.08333	2	12.54167	N.S.
SM	.7257	5.510417	1	5.510417	N.S.
QM	4.2838	10.01042	1	10.01042	.05
CM	.0275	.2500000	2	.1250000	N.S.
SQC	.3802	9.000000	2	4.500000	N.S.
SQM	3.2496	7.593750	1	7.593750	N.S.
SCM	.4444	.3333333	2	.1666667	N.S.
QCM	1.9435	9.083333	2	4.541667	N.S.
R(SQC)		426.1250	36	11.83681	- -
SQCM	.1605	.7500000	2	.3750000	N.S.
RM(SQC)		84.12500	36	2.336806	- -

TABLE 34

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART A

CELL MEANS

```
           S =        1            2
                  11.06250     11.25000
           Q =        1            2
                  11.95833     10.35417
           C =        1            2            3
                  11.15625     10.59375     11.71875
           M =        1            2
                  10.25000     12.06250
           Q =        1            2
     S =    1     12.45833      9.66667
            2     11.45833     11.04167
           C =        1            2            3
     S =    1     11.50000     10.25000     11.43750
            2     10.31250     10.93750     12.00000
           C =        1            2            3
     Q =    1     11.31250     12.00000     12.56250
            2     11.00000      9.18750     10.67500
           S =  1
           C =        1            2            3
     Q =    1     12.62500     11.87500     12.87500
            2     10.37500      8.62500     10.00000
           S =  2
           C =        1            2            3
     Q =    1     10.00000     12.12500     12.25000
            2     11.62500      9.75000     11.75000
           S =  1     Q =  1
           R =        1            2            3            4
     C =    1     13.00000     12.50000     12.50000     12.50000
            2     11.50000     12.00000     12.50000     11.50000
            3     13.00000     12.50000     13.00000     13.00000
           S =  1     Q =  2
           R =        1            2            3            4
     C =    1     11.50000      5.00000     12.00000     13.00000
            2     10.00000      8.50000      4.00000     12.00000
            3     13.00000     11.50000      9.00000      7.50000
           S =  2     Q =  1
           R =        1            2            3            4
     C =    1      4.00000     11.50000     13.00000     11.50000
            2     11.00000     12.00000     13.00000     12.50000
            3     13.00000     13.00000     13.00000     10.00000
           S =  2     Q =  2
           R =        1            2            3            4
     C =    1     10.50000     13.00000     12.50000     10.50000
            2     13.00000      9.00000     12.50000      4.50000
            3     10.50000     10.50000     13.00000     13.00000
```

TABLE 35

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART B

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	76.3151	2233.010	1	2233.010	N.S.
S (SEX)	.5505	5.510417	1	5.510417	N.S.
Q (I.Q.)	6.3218	29.26042	1	29.26042	.05
C (Cont. Status)	1.0000	11.39583	2	5.697917	N.S.
M (Measurement)	8.3080	25.01042	1	25.01042	N.S.
SQ	2.1628	10.01042	1	10.01042	N.S.
SC	1.9231	6.770833	2	3.385417	N.S.
QC	1.2311	11.39583	2	5.697917	N.S.
SM	2.4694	1.260417	1	1.260417	N.S.
QM	2.8058	3.010417	1	3.101417	N.S.
CM	.8835	1.895833	2	.9479167	N.S.
SQC	.3803	3.520833	2	1.760417	N.S.
SQM	.4757	.5104167	1	.5104167	N.S.
SCM	49.0000	1.020833	2	.5104167	.05
QCM	1.0000	2.145833	2	1.072917	N.S.
R(SQC)		166.6250	36	4.628472	- -
SQCM	.0097	.2083333E-01	2	.1041667E-01	N.S.
RM(SQC)		38.62500	36	1.072917	- -

Proger

TABLE 36

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART B

CELL MEANS

```
         S =          1              2
                 4.58333        5.06250
         Q =          1              2
                 5.37500        4.27083
         C =          1              2              3
                 4.81250        4.40625        5.25000
         M =          1              2
                 4.31250        5.33333
         Q =          1              2
    S =   1      5.45833        3.70833
          2      5.29167        4.83333
         C =          1              2              3
    S =   1      4.93750        4.06250        4.75000
          2      4.68750        4.75000        5.75000
         C =          1              2              3
    Q =   1      4.93750        5.37500        5.81250
          2      4.68750        3.43750        4.68750
         S =  1
         C =          1              2              3
    Q =   1      5.62500        5.12500        5.62500
          2      4.25000        3.00000        3.87500
         S =  2
         C =          1              2              3
    Q =   1      4.25000        5.62500        6.00000
          2      5.12500        3.87500        5.50000
         S =  1     Q =  1
         R =          1              2              3              4
    C =   1      4.50000        6.00000        6.00000        6.00000
          2      5.50000        6.00000        3.50000        5.50000
          3      5.00000        5.50000        6.00000        6.00000
         S =  1     Q =  2
         R =          1              2              3              4
    C =   1      5.00000        2.00000        4.00000        6.00000
          2      6.00000        1.50000         .00000        4.50000
          3      6.00000        5.50000        2.50000        1.50000
         S =  2     Q =  1
         R =          1              2              3              4
    C =   1      1.00000        4.50000        6.00000        5.50000
          2      4.50000        6.00000        6.00000        6.00000
          3      6.00000        6.00000        6.00000        6.00000
         S =  2     Q =  2
         R =          1              2              3              4
    C =   1      4.00000        5.00000        5.50000        6.00000
          2      5.50000        2.00000        5.50000        2.50000
          3      4.50000        5.50000        6.00000        6.00000
```

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART O

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	151.1453	1820.042	1	18201042	N.S.
S (SEX)	.6944	4.166667	1	4.166667	N.S.
Q (I.Q.)	6.0629	12.04167	1	12.04167	.05
C (Cont. Status)	.5068	.7708333	2	.3854167	N.S.
M (Measurement)	3.2400	13.50000	1	13.50000	N.S.
SQ	3.0210	6.000000	1	6.000000	N.S.
SC	.1478	.8958333	2	.4479167	N.S.
QC	.3829	1.520833	2	.7604167	N.S.
SM	1.0000	3.375000	1	3.375000	N.S.
QM	6.8182	4.166667	1	4.166667	.05
CM	1.1096	1.687500	2	.8437500	N.S.
SQC	1.5262	6.062500	2	3.031250	N.S.
SQM	5.5227	3.375000	1	3.375000	.05
SCM	.6923	.5625000	2	.2812500	N.S.
QCM	1.2443	1.520833	2	.7604167	N.S.
R(SQC)		71.50000	36	1.986111	- -
SQCM	.6648	.8125000	2	.4062500	N.S.
RM(SQC)		22.00000	35	.6111111	- -

Proger

TABLE 38

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART C

CELL MEANS

```
       S =
             1            2
          4.14583      4.56250
       Q =
             1            2
          4.70833      4.00000
       C =
             1            2            3
          4.25000      4.34375      4.46875
       M =
             1            2
          3.97917      4.72917
       Q =
             1            2
  S =  1  4.75000      3.54167
       2  4.66667      4.45833
       C =
             1            2            3
  S =  1  4.12500      4.18750      4.12500
       2  4.37500      4.50000      4.81250
       C =
             1            2            3
  Q =  1  4.50000      4.62500      5.00000
       2  4.00000      4.06250      3.93750
       S =  1
       C =
             1            2            3
  Q =  1  4.87500      4.37500      5.00000
       2  3.37500      4.00000      3.25000
       S =  2
       C =
             1            2            3
  Q =  1  4.12500      4.87500      5.00000
       2  4.62500      4.12500      4.62500
       S =  1   Q =  1
       R =
             1            2            3            4
  C =  1  4.50000      5.00000      5.00000      5.00000
       2  4.50000      5.00000      3.00000      5.00000
       3  5.00000      5.00000      5.00000      5.00000
       S =  1   Q =  2
       R =
             1            2            3            4
  C =  1  2.50000      2.50000      3.50000      5.00000
       2  4.50000      4.00000      3.00000      4.50000
       3  5.00000      5.00000      1.50000      1.50000
       S =  2   Q =  1
       R =
             1            2            3            4
  C =  1  3.00000      3.50000      5.00000      5.00000
       2  5.00000      4.50000      5.00000      5.00000
       3  5.00000      5.00000      5.00000      5.00000
       S =  2   Q =  2
       R =
             1            2            3            4
  C =  1  5.00000      5.00000      3.50000      5.00000
       2  5.00000      5.00000      5.00000      1.50000
       3  4.00000      4.50000      5.00000      5.00000
```

TABLE

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART D

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	21.8344	688.0104	1	688.0104	N.S.
S (SEX)	.5848	1.760417	1	1.760417	N.S.
Q (I.Q.)	8.7009	31.51042	1	31.51042	.01
C (Cont. Status)	1.4204	4.645833	2	2.322917	N.S.
M (Measurement)	67.2400	17.51042	1	17.51042	N.S.
SQ	.8313	3.010417	1	3.010417	N.S.
SC	.2264	1.645833	2	.8229167	N.S.
QC	.4516	3.270833	2	1.635417	N.S.
SM	.0204	.1041667E-01	1	.1041667E-01	N.S.
QM	.4491	.2604167	1	.2604167	N.S.
CM	2.3973	3.645833	2	1.822917	N.S.
SQC	1.0038	7.270833	2	3.635417	N.S.
SQM	.8802	.5104167	1	.5104167	N.S.
SCM	3.3077	.8958333	2	.4479167	N.S.
QCM	1.3114	1.520833	2	.7604167	N.S.
R(SQC)		130.3750	36	3.621528	- -
SQCM	.2335	.2708333	2	.1354167	N.S.
RM(SQC)		20.87500	36	.5798611	- -

Proger

TABLE 40

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART D

CELL MEANS

```
      S =          1              2
               2.54167        2.81250
      Q =          1              2
               3.25000        2.10417
      C =          1              2              3
               2.62500        2.43750        2.96875
      M =          1              2
               2.25000        3.10417
      Q =          1              2
 S =   1       3.29167        1.79167
       2       3.20833        2.41667
      C =          1              2              3
 S =   1       2.62500        2.12500        2.87500
       2       2.62500        2.75000        3.06250
      C =          1              2              3
 Q =   1       2.93750        3.12500        3.68750
       2       2.31250        1.75000        2.25000
      S =  1
      C =          1              2              3
 Q =   1       3.50000        2.75000        3.62500
       2       1.75000        1.50000        2.12500
      S =  2
      C =          1              2              3
 Q =   1       2.37500        3.50000        3.75000
       2       2.87500        2.00000        2.37500
      S =  1       Q =  1
      R =          1              2              3              4
 C =   1       3.00000        4.00000        4.00000        3.00000
       2       3.00000        4.00000         .50000        3.50000
       3       3.00000        4.00000        4.00000        3.50000
      S =  1       Q =  2
      R =          1              2              3              4
 C =   1       1.00000         .00000        2.00000        4.00000
       2       3.50000         .00000         .00000        2.50000
       3       4.00000        3.50000        1.00000         .00000
      S =  2       Q =  1
      R =          1              2              3              4
 C =   1        .50000        2.50000        4.00000        2.50000
       2       2.50000        3.50000        4.00000        4.00000
       3       4.00000        4.00000        4.00000        3.00000
      S =  2       Q =  2
      R =          1              2              3              4
 C =   1       3.00000        3.00000        3.00000        2.50000
       2       4.00000         .00000        4.00000         .00000
       3       2.00000        3.50000        1.50000        2.50000
```

TABLE 41

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART E

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	16.9744	1768.167	1	1768.167	N.S.
S (SEX)	13.4444	5.041667	1	5.041667	N.S.
Q (I.Q.)	13.9925	104.1667	1	104.1667	.01
C (Cont. Status)	.0769	.5833333	2	.2916667	N.S.
M (Measurement)	441.0000	73.50000	1	73.50000	.05
SQ	.0504	.3750000	1	.3750000	N.S.
SC	.2552	4.083333	2	2.041667	N.S.
QC	.5093	7.583333	2	.1666667	N.S.
SM	1.0000	2.041667	1	2.041667	N.S.
QM	.1395	.1666667	1	.1666667	N.S.
CM	.2903	.7500000	2	.3750000	N.S.
SQC	1.0746	16.00000	2	8.000000	N.S.
SQM	1.7093	2.041667	1	2.041667	N.S.
SCM	6.5263	10.33333	2	5.166667	.05
QCM	1.0814	2.583333	2	1.291667	N.S.
R(SQC)		268.0000	36	7.444444	- -
SQCM	.6628	1.583333	2	.7916667	N.S.
RM(SQC)		43.00000	36	1.194444	- -

Proger

TABLE 42

DISTAR LONGITUDINAL DATA

DISTAR PLACEMENT TEST: PART E

CELL MEANS

```
           S =         1              2
                  4.06250        4.52083
           Q =         1              2
                  5.33333        3.25000
           C =         1              2              3
                  4.18750        4.31250        4.37500
           M =         1              2
                  3.41667        5.16667
           Q =         1              2
      S =  1      5.16667        2.95833
           2      5.50000        3.54167
           C =         1              2              3
      S =  1      4.25000        3.93750        4.00000
           2      4.12500        4.68750        4.75000
           C =         1              2              3
      Q =  1      5.25000        5.68750        5.06250
           2      3.12500        2.93750        3.68750
           S =  1
           C =         1              2              3
      Q =  1      5.87500        4.87500        4.75000
           2      2.62500        3.00000        3.25000
           S =  2
           C =         1              2              3
      Q =  1      4.62500        6.50000        5.37500
           2      3.62500        2.87500        4.12500
           S =  1      Q =  1
           R =         1              2              3              4
      C =  1      4.00000        6.00000        7.00000        6.50000
           2      6.50000        4.50000        2.50000        6.00000
           3      4.50000        3.50000        6.50000        4.50000
           S =  1      Q =  2
           R =         1              2              3              4
      C =  1      2.50000         .00000        2.00000        6.00000
           2      4.50000        2.50000         .00000        5.00000
           3      7.00000        4.00000        1.50000         .50000
           S =  2      Q =  1
           R =         1              2              3              4
      C =  1      1.50000        4.50000        7.00000        5.50000
           2      6.00000        6.50000        7.00000        6.50000
           3      6.00000        4.50000        6.50000        4.50000
           S =  2      Q =  2
           R =         1              2              3              4
      C =  1      3.50000        2.50000        4.50000        4.00000
           2      6.50000         .50000        4.50000         .00000
           3      3.50000        3.00000        5.00000        5.00000
```

DISTAR LONGITUDINAL DATA

ITPA: GRAMMATIC CLOSURE SCALED SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	806.0662	111044.0	1	111044.0	.05
S (SEX)	.3207	23.01042	1	23.01042	N.S.
Q (I.Q.)	1.2208	137.7604	1	137.7604	N.S.
C (Cont. Status)	.9698	52.27083	2	26.13542	N.S.
M (Measurement)	25.0000	162.7604	1	162.7604	N.S.
SQ	.6359	71.76042	1	71.76042	N.S.
SC	.5665	247.1458	2	123.5729	N.S.
QC	.2388	53.89583	2	26.94792	N.S.
SM	.5529	8.760417	1	8.760417	N.S.
QM	.5421	6.510417	1	6.510417	N.S.
CM	.1114	2.145833	2	1.072917	N.S.
SQC	1.9331	436.2708	2	218.1354	N.S.
SQM	1.3192	15.84375	1	15.84375	N.S.
SCM	.6158	28.52083	2	14.26042	N.S.
QCM	.8023	19.27083	2	9.635417	N.S.
R(SQC)		4062.375	36	112.8437	- -
SQCM	1.9280	46.31250	2	23.15625	N.S.
RM(SQC)		432.3750	36	12.01042	- -

Proger

TABLE 44

DISTAR LONGITUDINAL DATA

ITPA: GRAMMATIC CLOSURE SCALED SCORE

CELL MEANS

```
         S =       1               2
                34.50000        33.52083
         Q =       1               2
                35.20833        32.81250
         C =       1               2               3
                33.31250        33.68750        35.03125
         M =       1               2
                32.70833        35.31250
         O =       1               2
    S =  1      34.93333        34.16667
         2      35.58333        31.45333
         C =       1               2               3
    S =  1      36.06250        32.87500        34.56250
         2      30.56250        34.50000        35.50000
         C =       1               2               3
    Q =  1      33.68750        35.87500        36.06250
         2      32.93750        31.50000        34.00000
         S =  1
         C =       1               2               3
    Q =  1      36.50000        31.25000        36.75000
         2      35.62500        34.50000        32.37500
         S =  2
         C =       1               2               3
    Q =  1      30.87500        40.50000        35.37500
         2      30.25000        28.50000        35.62500
         S =  1     O =  1
         R =       1               2               3               4
    C =  1      33.00000        24.50000        34.00000        54.50000
         2      24.50000        25.50000        33.00000        42.00000
         3      39.50000        24.50000        51.00000        33.00000
         S =  1     O =  2
         R =       1               2               3               4
    C =  1      35.00000        31.00000        44.00000        31.50000
         2      30.50000        37.50000        31.00000        39.00000
         3      36.50000        28.00000        41.00000        24.00000
         S =  2     O =  1
         R =       1               2               3               4
    C =  1      34.00000        30.00000        27.00000        32.50000
         2      33.50000        48.50000        47.50000        27.50000
         3      34.00000        40.00000        36.00000        31.50000
         S =  2     O =  2
         R =       1               2               3               4
    C =  1      28.50000        33.50000        24.50000        34.50000
         2      27.00000        35.00000        21.00000        31.00000
         3      34.50000        34.00000        30.00000        44.00000
```

DISTAR LONGITUDINAL DATA

ITPA: AUDITORY ASSOCIATION SCALED SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	57.5504	110161.5	1	110161.5	N.S.
S (SEX)	1.4172	26.04167	1	26.04167	N.S.
Q (I.Q.)	1.0516	104.1667	1	104.1667	N.S.
C (Cont. Status)	.2997	40.68750	2	20.34375	N.S.
M (Measurement)	.0000	88.16667	1	88.16667	N.S.
SQ	.1855	18.37500	1	18.37500	N.S.
SC	36.7735	595.2708	2	297.6354	.05
QC	.6853	135.7708	2	67.88542	N.S.
SM	2.7778	1.041667	1	1.041667	N.S.
QM	.0000	-.4547474E-12	1	-.4547474E-12	N.S.
CM	9.6120	36.64583	2	18.32292	N.S.
SQC	.0817	16.18750	2	8.093750	N.S.
SQM	.0289	.3750000	1	.3750000	N.S.
SCM	.0341	1.895833	2	.9479167	N.S.
QCM	.1471	3.812500	2	1.906250	N.S.
R(SQC)		3566.000	36	99.05556	- -
SQCM	2.1439	55.56250	2	27.78125	N.S.
RM(SQC)		466.5000	36	12.95833	- -

TABLE 46

DISTAR LONGITUDINAL DATA

ITPA: AUDITORY ASSOCIATION SCALED SCORE

CELL MEANS

```
        S =         1             2
               33.35417      34.39583
        Q =         1             2
               34.91667      32.83333
        C =         1             2             3
               33.36250      33.90625      34.65625
        M =         1             2
               32.91667      34.83333
        Q =         1             2
   S =   1     33.95833      32.75000
         2     35.87500      32.91667
        C =         1             2             3
   S =   1     36.06250      31.56250      32.43750
         2     30.06250      36.25000      36.87500
        C =         1             2             3
   Q =   1     35.50000      35.06250      34.18750
         2     30.62500      32.75000      35.12500
        S =  1
        C =         1             2             3
   Q =   1     38.12500      31.75000      32.00000
         2     34.00000      31.37500      32.87500
        S =  2
        C =         1             2             3
   Q =   1     32.87500      36.37500      36.37500
         2     27.25000      34.12500      37.37500
        S =  1     Q =  1
        R =         1             2             3             4
   C =   1     30.00000      33.00000      40.00000      49.50000
         2     17.50000      30.50000      30.50000      48.50000
         3     28.00000      24.00000      42.00000      34.00000
        S =  1     Q =  2
        R =         1             2             3             4
   C =   1     34.50000      32.00000      39.50000      30.00000
         2     30.00000      37.50000      31.00000      27.00000
         3     39.00000      33.00000      38.50000      22.00000
        S =  2     Q =  1
        R =         1             2             3             4
   C =   1     38.50000      25.50000      31.50000      36.00000
         2     37.00000      46.50000      34.50000      35.50000
         3     36.00000      35.50000      37.00000      37.00000
        S =  2     Q =  2
        R =         1             2             3             4
   C =   1     32.00000      28.50000      23.00000      25.50000
         2     26.50000      46.00000      29.00000      35.00000
         3     30.00000      34.50000      33.00000      46.00000
```

TABLE 47

DISTAR LONGITUDINAL DATA

ITPA: VERBAL EXPRESSION SCALED SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	*02.5580	147266.7	1	147266.7	N.S.
S (SEX)	5.7600	54.00000	1	54.00000	N.S.
Q (I.Q.)	.5468	70.04167	1	70.04167	N.S.
C (Cont. Status)	.1185	45.08333	2	22.54167	N.S.
M (Measurement)	112.8906	301.0417	1	301.0417	N.S.
SQ	.0732	9.375000	1	9.375000	N.S.
SC	.5258	135.2500	2	67.62500	N.S.
QC	1.4847	380.3333	2	190.1667	N.S.
SM	90.2500	15.04167	1	15.04167	N.S.
QM	.1529	2.666667	1	2.666667	N.S.
CM	.4300	3.583333	2	1.791667	N.S.
SQC	1.0042	257.2500	2	128.6250	N.S.
SQM	.0096	.1666667	1	.1666667	N.S.
SCM	1.5131	53.08333	2	26.54167	N.S.
QCM	.2385	8.333333	2	4.166667	N.S.
R(SQC)		4611.000	36	128.0833	- -
Proger SQCM	1.0056	35.08333	2	17.54167	N.S.
RM(SQC)		628.0000	36	17.44444	- -

TABLE 48

DISTAR LONGITUDINAL DATA

ITPA: VERGAL EXPRESSION SCALED SCORE

CELL MEANS

```
          S =        1            2
                 39.91567     38.41667
          Q =        1            2
                 40.02083     38.31250
          C =        1            2            3
                 40.12500     36.56250     38.81250
          M =        1            2
                 37.39583     40.93750
          Q =        1            2
     S =   1     40.45833     39.37500
           2     39.58333     37.25000
          C =        1            2            3
     S =   1     42.18750     39.56250     38.00000
           2     38.06250     37.56250     39.62500
          C =        1            2            3
     Q =   1     42.06250     41.12500     36.87500
           2     39.18750     36.00000     40.75000
          S =   1
          C =        1            2            3
     Q =   1     44.87500     39.50000     37.00000
           2     39.50000     39.62500     39.00000
          S =   2
          C =        1            2            3
     Q =   1     39.25000     42.75000     36.75000
           2     36.87500     32.37500     42.50000
          S =   1      Q =  1
          R =        1            2            3            4
     C =   1     33.50000     28.00000     53.50000     64.50000
           2     35.50000     41.50000     38.50000     42.50000
           3     40.00000     30.50000     36.50000     41.00000
          S =   1      Q =  2
          R =        1            2            3            4
     C =   1     44.50000     36.00000     42.50000     35.00000
           2     39.50000     39.00000     27.50000     52.50000
           3     50.00000     35.50000     40.50000     30.00000
          S =   2      Q =  1
          R =        1            2            3            4
     C =   1     47.50000     27.50000     34.50000     47.50000
           2     42.00000     47.50000     43.50000     38.00000
           3     34.50000     31.00000     44.50000     37.00000
          S =   2      Q =  2
          R =        1            2            3            4
     C =   1     41.50000     36.50000     34.50000     35.00000
           2     32.00000     31.00000     30.50000     36.00000
           3     33.50000     54.50000     44.00000     38.00000
```

TABLE 49

DISTAR LONGITUDINAL DATA

ITPA: VISUAL ASSOCIATION SCALED SCORE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	40.1111	140760.2	1	140760.2	N.S.
S (SEX)	.1378	8.166667	1	8.166667	N.S.
Q (I.Q.)	.0131	1.500000	1	1.500000	N.S.
C (Cont. Status)	.1384	89.08333	2	44.54167	N.S.
M (Measurement)	.3600	54.00000	1	54.00000	N.S.
SQ	1.8907	216.0000	1	216.0000	N.S.
SC	1.6030	505.3333	2	252.6667	N.S.
QC	2.8175	643.7500	2	321.8750	N.S.
SM	.1322	2.666667	1	2.666667	N.S.
QM	5.2516	150.0000	1	150.0000	.05
CM	.1905	25.00000	2	12.50000	N.S.
SQC	1.3797	315.2500	2	157.6250	N.S.
SQM	.7061	20.16667	1	20.16667	N.S.
SCM	.9607	61.08333	2	30.54167	N.S.
QCM	2.2976	131.2500	2	65.62500	N.S.
R(SQC)		4112.750	36	114.2431	- -
SQCM	1.1131	63.58333	2	31.79167	N.S.
RM(SQC)		1028.250	36	28.56250	- -

Proger

TABLE 50

DISTAR LONGITUDINAL DATA

ITPA: VISUAL ASSOCIATION SCALED SCORE

CELL MEANS

```
          S =        1           2
               38.58333    38.00000
          Q =        1           2
               38.16667    38.41667
          C =        1           2           3
               37.00000    39.31250    38.56250
          M =        1           2
               37.54167    39.04167
          Q =        1           2
     S =  1    36.95833    40.20833
          2    39.37500    36.62500
          C =        1           2           3
     S =  1    34.87500    42.68750    38.18750
          2    39.12500    35.93750    38.93750
          C =        1           2           3
     Q =  1    39.68750    39.81250    35.00000
          2    34.31250    38.81250    42.12500
          S =   1
          C =        1           2           3
     Q =  1    33.87500    41.62500    35.37500
          2    35.87500    43.75000    41.00000
          S =   2
          C =        1           2           3
     Q =  1    45.50000    38.00000    34.62500
          2    32.75000    33.87500    43.25000
          S =   1      Q =   1
          R =        1           2           3           4
     C =  1    42.00000    26.00000    31.00000    36.50000
          2    38.00000    42.00000    45.50000    41.00000
          3    33.50000    48.50000    21.50000    38.00000
          S =   1      Q =   2
          R =        1           2           3           4
     C =  1    38.00000    32.00000    42.50000    31.00000
          2    32.50000    58.00000    39.50000    45.00000
          3    41.00000    43.50000    42.50000    37.00000
          S =   2      Q =   1
          R =        1           2           3           4
     C =  1    62.50000    36.50000    42.00000    41.00000
          2    37.50000    40.00000    36.50000    38.00000
          3    39.00000    19.00000    36.50000    44.00000
          S =   2      Q =   2
          R =        1           2           3           4
     C =  1    36.50000    35.00000    27.00000    32.50000
          2    33.00000    37.50000    32.00000    33.00000
          3    54.50000    45.00000    36.50000    37.00000
```

DISTAR LONGITUDINAL DATA

SPENCER MEMORY FOR SENTENCES TEST

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	8.7025	580.1667	1	580.1667	N.S.
S (SEX)	25.0000	1.041667	1	1.041667	N.S.
Q (I.Q.)	9.5522	66.66667	1	66.66667	.01
C (Cont. Status)	1.7718	8.895833	2	4.447917	N.S.
M (Measurement)	9.0000	9.375000	1	9.375000	N.S.
SQ	.0060	.4166667E-01	1	.4166667E-01	N.S.
SC	1.2486	33.27083	2	16.63542	N.S.
QC	.3597	5.020833	2	2.510417	N.S.
SM	.0000	-.5685342E-13	1	-5685342E-13	N.S.
QM	.7463	1.041667	1	1.041667	N.S.
CM	14.0769	3.812500	2	1.906250	N.S.
SQC	1.9090	26.64583	2	13.32292	N.S.
SQM	5.8507	8.166667	1	8.166667	.05
SCM	.4981	2.687500	2	1.343750	N.S.
QCM	.9070	.2708333	2	.1354167	N.S.
R(SQC)		251.2500	36	6.979167	- -
SQCM	1.9328	5.395833	2	2.697917	N.S.
RM(SQC)		50.25000	36	1.395833	- -

Proger

TABLE 52

DISTAR LONGITUDINAL DATA

SPENCER MEMORY FOR SENTENCES TEST

CELL MEANS

```
           S =        1            2
                   2.56250      2.35417
           Q =        1            2
                   3.29167      1.62500
           C =        1            2              3
                   2.62500      2.03125        2.71875
           M =        1            2
                   2.14583      2.77083
           Q =        1            2
      S =  1       3.41667      1.70833
           2       3.16667      1.54167
           C =        1            2              3
      S =  1       3.25000      1.31250        3.12500
           2       2.00000      2.75000        2.31250
           C =        1            2              3
      Q =  1       3.31250      3.18750        3.37500
           2       1.93750       .87500        2.06250
           S =   1
           C =        1            2              3
      Q =  1       4.25000      1.75000        4.25000
           2       2.25000       .87500        2.00000
           S =   2
           C =        1            2              3
      Q =  1       2.37500      4.62500        2.50000
           2       1.62500       .87500        2.12500
           S =   1     Q =   1
           R =        1            2              3              4
      C =  1       4.50000      3.00000        4.50000        5.00000
           2       2.00000      3.00000        2.00000         .00000
           3       3.00000      3.00000        6.50000        4.50000
           S =   1     Q =   2
           R =        1            2              3              4
      C =  1       1.50000       .00000        1.50000        6.00000
           2       1.00000      1.50000         .00000        1.00000
           3       6.00000      2.00000         .00000         .00000
           S =   2     Q =   1
           R =        1            2              3              4
      C =  1        .50000      1.00000        4.50000        3.50000
           2       3.50000      3.50000        9.00000        2.50000
           3       3.50000      5.00000        1.00000         .50000
           S =   2     Q =   2
           R =        1            2              3              4
      C =  1       1.50000      2.50000        2.00000         .50000
           2       1.50000       .00000        2.00000         .00000
           3        .50000      1.50000        2.00000        4.50000
```

DISTAR LONGITUDINAL DATA

PEABODY PICTURE VOCABULARY TEST MENTAL AGE

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	44.7848	425467.5	1	425467.5	N.S.
S (SEX)	.0300	15.84375	1	15.84375	N.S.
Q (I.Q.)	11.7942	9500.260	1	9500.260	.01
C (Cont. Status)	2.4598	3722.021	2	1861.010	N.S.
M (Measurement)	5.5918	420.8437	1	420.8437	N.S.
SQ	.6547	527.3438	1	527.3438	N.S.
SC	1.8511	1533.062	2	766.5312	N.S.
QC	.9393	1513.146	2	756.5729	N.S.
SM	1.4470	71.76042	1	71.76042	N.S.
QM	1.3097	75.26042	1	75.26042	N.S.
CM	.0039	.4375000	2	.2187500	N.S.
SQC	.5141	828.1875	2	414.0937	N.S.
SQM	.8631	49.59375	1	49.59375	N.S.
SCM	2.6549	60.89583	2	30.44792	N.S.
QCM	.9845	113.1458	2	56.57292	N.S.
R(SQC)		28998.12	36	805.5035	- -
SQCM	.1996	22.93750	2	11.46875	N.S.
RM(SQC)		2068.625	36	57.46181	- -

Proger

TABLE 54

DISTAR LONGITUDINAL DATA

PEABODY PICTURE VOCABULARY TEST MENTAL AGE

CELL MEANS

```
         S =       1              2
                66.16667       66.97917
         Q =       1              2
                76.52083       56.62500
         C =       1              2              3
                66.71875       58.87500       74.12500
         M =       1              2
                64.47917       68.66667
         Q =       1              2
   S =    1     78.45833       53.97500
          2     74.58333       59.37500
         C =       1              2              3
   S =    1     67.81250       53.00000       77.68750
          2     65.62500       64.75000       70.56250
         C =       1              2              3
   Q =    1     71.12500       72.37500       86.06250
          2     62.31250       45.37500       62.18750
         S =    1
         C =       1              2              3
   Q =    1     76.00000       64.75000       94.62500
          2     59.62500       41.25000       60.75000
         S =    2
         C =       1              2              3
   Q =    1     66.25000       80.00000       77.50000
          2     65.00000       49.50000       63.62500
         S =    1     Q =    1
         R =       1              2              3              4
   C =    1     55.00000       69.00000       87.00000       82.00000
          2     76.50000       83.50000       42.00000       57.00000
          3     79.00000       89.00000       97.00000      113.50000
         S =    1     Q =    2
         R =       1              2              3              4
   C =    1     63.00000       32.50000       48.00000       95.00000
          2     51.50000       33.00000       33.00000       47.50000
          3     98.00000       60.00000       44.00000       41.00000
         S =    2     Q =    1
         R =       1              2              3              4
   C =    1     34.00000       44.00000      110.50000       86.50000
          2     65.00000       94.50000       85.50000       75.00000
          3     88.00000       66.50000       63.50000       72.00000
         S =    2     Q =    2
         R =       1              2              3              4
   C =    1     70.00000       64.50000       33.00000       86.50000
          2     67.50000       38.50000       46.50000       45.50000
          3     39.50000       39.00000       69.00000       88.00000
```

APPENDIX C

TABLES FOR DISTAR INTENSIVE STUDY: INTRA - YEAR FINDINGS SEPARATELY FOR EACH OF 7 PERIODS

TABLE 55

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 1

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	51.2966	52668.75	1	52668.75	N.S.
S (SEX)	1.8595	75.00000	1	75.00000	N.S.
Q (I.Q.)	3.8250	1026.750	1	1026.750	N.S.
C (Cont. Status)	.2453	326.6250	2	163.3125	N.S.
SQ	.1503	40.44444	1	40.33333	N.S.
SC	4.9184	819.1250	2	409.5625	N.S.
QC	2.4799	1331.375	2	665.6875	N.S.
SQC	.3102	166.5417	2	83.27083	N.S.
R(SQC)		9663.500	36	268.4306	- -

TABLE 56

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 1

CELL MEANS

```
         S =          1             2
                  34.37500      31.87500
         Q =          1             2
                  37.75000      28.50000
         C =          1             2             3
                  30.06250      32.87500      36.43750
         Q =          1             2
  S =   1         39.31667      29.83333
        2         35.58333      28.16667
         C =          1             2             3
  S =   1         29.62500      30.12500      43.37500
        2         30.50000      35.62500      29.50000
         C =          1             2             3
  Q =   1         27.25000      40.87500      47.12500
        2         32.37500      24.87500      27.75000
         S =   1
         C =          1             2             3
  Q =   1         27.75000      36.75000      55.25000
        2         31.50000      23.50000      31.50000
         S =   2
         C =          1             2             3
  Q =   1         25.75000      45.00000      35.00000
        2         34.25000      26.25000      24.00000
         S =   1       Q =   1
         R =          1             2             3             4
  C =   1          39.00000      14.00000      43.00000      15.00000
        2          22.00000      74.00000      37.00000      14.00000
        3          34.00000      39.00000      74.00000      74.00000
         S =   1       Q =   2
         R =          1             2             3             4
  C =   1          22.00000      15.00000      40.00000      40.00000
        2          26.00000      15.00000      16.00000      37.00000
        3          43.00000      53.00000      15.00000      15.00000
         S =   2       Q =   1
         R =          1             2             3             4
  C =   1          16.00000      14.00000      43.00000      34.00000
        2          34.00000      48.00000      49.00000      49.00000
        3          35.00000      22.00000      49.00000      34.00000
         S =   2       Q =   2
         R =          1             2             3             4
  C =   1          25.00000      48.00000      14.00000      49.00000
        2          23.00000      15.00000      57.00000      14.00000
        3          15.00000      23.00000      23.00000      35.00000
```

TABLE 57

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 1

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	103.8196	47376.33	1	47376.33	N.S.
S (SEX)	16.0000	5.333333	1	5.333333	N.S.
Q (I.Q.)	2.2167	456.3333	1	456.3333	N.S.
C (Cont. Status)	.0924	89.54167	2	44.77083	N.S.
SQ	.0016	.3333333	1	.3333333	N.S.
SC	5.4360	674.2917	2	337.1458	N.S.
QC	2.3530	968.7917	2	484.3958	N.S.
SQC	.3013	124.0417	2	62.02083	N.S.
R(SQC)		7411.000	36	205.8611	- -

TABLE 58

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 1

CELL MEANS

```
        S =        1              2
              31.75000       31.08333
        Q =        1              2
              34.50000       28.33333
        C =        1              2              3
              29.62500       31.68750       32.93750
        Q =        1              2
  S =   1     34.91667       28.58333
        2     34.08333       28.08333
        C =        1              2              3
  S =   1     29.37500       27.75000       38.12500
        2     29.87500       35.62500       27.75000
        C =        1              2              3
  Q =   1     26.37500       38.37500       38.75000
        2     32.87500       25.00000       27.12500
        S =   1
        C =        1              2              3
  Q =   1     27.25000       32.25000       45.25000
        2     31.50000       23.25000       31.00000
        S =   2
        C =        1              2              3
  Q =   1     25.50000       44.50000       32.25000
        2     34.25000       26.75000       23.25000
        S =   1      Q =   1
        R =        1              2              3              4
  C =   1     39.00000       14.00000       41.00000       15.00000
        2     22.00000       56.00000       37.00000       14.00000
        3     30.00000       39.00000       56.00000       56.00000
        S =   1      Q =   2
        R =        1              2              3              4
  C =   1     22.00000       15.00000       40.00000       49.00000
        2     26.00000       15.00000       15.00000       37.00000
        3     41.00000       53.00000       15.00000       15.00000
        S =   2      Q =   1
        R =        1              2              3              4
  C =   1     15.00000       14.00000       41.00000       32.00000
        2     32.00000       48.00000       49.00000       49.00000
        3     30.00000       22.00000       47.00000       30.00000
        S =   2      Q =   2
        R =        1              2              3              4
  C =   1     25.00000       48.00000       15.00000       49.00000
        2     25.00000       15.00000       53.00000       14.00000
        3     15.00000       23.00000       25.00000       30.00000
```

Proger

TABLE 59

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 2

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	44.7667	86190.75	1	86190.75	N.S.
S (SEX)	.4815	96.33333	1	96.33333	N.S.
Q (I.Q.)	5.1098	1925.333	1	1925.333	.05
C (Cont. Status)	.0995	142.6250	2	71.31250	N.S.
SQ	.5310	200.0833	1	200.0833	N.S.
SC	3.4773	627.7917	2	313.8958	N.S.
QC	1.9030	1434.042	2	717.0208	N.S.
SQC	.2396	180.5417	2	90.27083	N.S.
R(SQC)		13564.50	36	376.7917	- -

TABLE 60

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 2

CELL MEANS

```
         S =
                   1             2
    _____Q =   43.79167      40.95833
                   1             2
         C =   48.70833      36.04167
                   1             2             3
    ____ Q =   41.12500      42.68750      44.31250
     S =  1        1
          2    52.16667      35.41667
         C =   45.25000      36.66667
                   1             2
    _S =  1
          2    40.37500      40.37500      50.62500
         C =   39.87500      45.00000      38.00000
                   1             2             3
     Q =  1    38.75000      52.37500      55.00000
    ______2    41.50000      37.00000      33.62500
          S =  1
          C =
                   1             2             3
     Q =  1    41.00000      49.75000      65.75000
    ______2    39.75000      31.00000      35.50000
          S =  2
          C =
                   1             2             3
     Q =  1    36.50000      55.00000      44.25000
    ______2    43.25000      35.00000      31.75000
          S =  1       Q =  1
          R =
     C =  1        1             2             3             4
    ______2    53.00000      26.00000      57.00000      26.00000
          3    35.00000      87.00000      51.00000      26.00000
               35.00000      53.00000      87.00000      87.00000
          S =  1       Q =  2
          R =
    _C =  1        1             2             3             4
          2    35.00000      10.00000      53.00000      61.00000
          3    32.00000      22.00000      12.00000      51.00000
               57.00000      65.00000      10.00000      10.00000
          S =  2       Q =  1
          R =
     C =  1        1             2             3             4
          2    19.00000      26.00000      57.00000      44.00000
          3    44.00000      54.00000      61.00000      61.00000
               43.00000      36.00000      62.00000      36.00000
          S =  2       Q =  2
          R =
     C =  1        1             2             3             4
          2    32.00000      54.00000      26.00000      61.00000
          3    31.00000      22.00000      65.00000      22.00000
               27.00000      32.00000      31.00000      43.00000
```

TABLE 61

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 2

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	69.5834	83500.08	1	83500.08	N.S.
S (SEX)	.2500	10.08333	1	10.08333	N.S.
Q (I.Q.)	4.1997	1200.000	1	1200.000	.05
C (Cont. Status)	.0542	52.16667	2	26.08333	N.S.
SQ	.1412	40.33333	1	40.33333	N.S.
SC	3.2500	470.1667	2	235.0833	N.S.
QC	1.6834	962.0000	2	481.0000	N.S.
SQC	.2531	144.6667	2	72.33333	N.S.
R(SQC)		10286.50	36	285.7361	- -

TABLE 62

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 2

CELL MEANS

```
         S =       1            2
              42.16667     41.25000
         Q =       1            2
              46.70833     36.70833
         C =       1            2            3
              40.25000     42.62500     42.25000
         Q =       1            2
    S =  1    48.08333     36.25000
         2    45.33333     37.16667
         C =       1            2            3
    S =  1    40.25000     39.50000     43.75000
         2    40.25000     45.75000     37.75000
         C =       1            2            3
    Q =  1    39.00000     49.87500     51.25000
         2    41.50000     35.37500     33.25000
         S =   1
         C =       1            2            3
    Q =  1    40.75000     45.25000     58.25000
         2    39.75000     33.75000     35.25000
         S =   2
         C =       1            2            3
    Q =  1    37.25000     54.50000     44.25000
         2    43.25000     37.00000     31.25000
         S =   1     Q =   1
         R =       1            2            3            4
    C =  1    53.00000     26.00000     56.00000     28.00000
         2    35.00000     69.00000     51.00000     26.00000
         3    42.00000     53.00000     69.00000     69.00000
         S =   1     Q =   2
         R =       1            2            3            4
    C =  1    35.00000     10.00000     53.00000     61.00000
         2    32.00000     27.00000     25.00000     51.00000
         3    56.00000     65.00000     10.00000     10.00000
         S =   2     Q =   1
         R =       1            2            3            4
    C =  1    25.00000     26.00000     56.00000     42.00000
         2    42.00000     54.00000     61.00000     61.00000
         3    38.00000     36.00000     61.00000     42.00000
         S =   2     Q =   2
         R =       1            2            3            4
    C =  1    32.00000     54.00000     26.00000     61.00000
         2    34.00000     27.00000     65.00000     22.00000
         3    23.00000     30.00000     34.00000     38.00000
```

TABLE 63

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 3

[illegible]YSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	29.1988	121002.1	1	121002.1	N.S.
S (SEX)	.2165	184.0833	1	184.0833	N.S.
Q (I.Q.)	7.5358	4144.083	1	4144.083	.01
C (Cont. Status)	.0804	143.2917	2	71.64583	N.S.
SQ	1.5458	850.0833	1	850.0833	N.S.
SC	1.7114	707.2917	2	353.6458	N.S.
QC	1.6210	1782.792	2	891.3958	N.S.
SQC	.3758	413.2917	2	206.6458	N.S.
R(SQC)		19797.00	36	549.9167	- -

TABLE 64

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 3

CELL MEANS

```
      S =        1            2
              52.16667     48.25000
      Q =        1            2
              59.50000     40.91667
      C =        1            2            3
              47.93750     50.56250     52.12500
      Q =        1            2
   S =  1     65.56667     38.66667
        2     53.33333     43.16667
      C =        1            2            3
   S =  1     47.50000     49.50000     59.50000
        2     49.37500     51.62500     44.75000
      C =        1            2            3
   Q =  1     43.00000     61.75000     67.75000
        2     40.37500     39.37500     36.50000
      S =   1
      C =        1            2            3
   Q =  1     52.00000     61.75000     83.25000
        2     43.00000     37.25000     35.75000
      S =   2
      C =        1            2            3
   Q =  1     46.00000     61.75000     52.25000
        2     50.75000     41.50000     37.25000
      S =   1     Q =   1
      R =        1            2            3            4
   C =  1     62.00000     36.00000     70.00000     40.00000
        2     42.00000    113.00000     56.00000     36.00000
        3     45.00000     62.00000    117.00000    113.00000
      S =   1     Q =   2
      R =        1            2            3            4
   C =  1     42.00000      2.00000     61.00000     67.00000
        2     33.00000     29.00000     25.00000     58.00000
        3     70.00000     69.00000      2.00000      2.00000
      S =   2     Q =   1
      R =        1            2            3            4
   C =  1     25.00000     36.00000     70.00000     53.00000
        2     57.00000     60.00000     67.00000     67.00000
        3     40.00000     49.00000     66.00000     45.00000
      S =   2     Q =   2
      R =        1            2            3            4
   C =  1     39.00000     60.00000     37.00000     67.00000
        2     43.00000     29.00000     69.00000     25.00000
        3     21.00000     36.00000     43.00000     49.00000
```

TABLE 65

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 3

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	34.3305	121404.1	1	121404.1	N.S.
S (SEX)	.1797	126.7500	1	126.7500	N.S.
Q (I.Q.)	6.5574	3536.333	1	3536.333	.05
C (Cont. Status)	.1253	197.0417	2	98.52083	N.S.
SQ	1.3079	705.3333	1	705.3333	N.S.
SC	2.2251	919.6250	2	459.8125	N.S.
QC	1.4584	1573.042	2	786.5208	N.S.
SQC	.3832	413.2917	2	206.6458	N.S.
R(SQC)		19414.50	36	539.2917	- -

TABLE 66

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 3

CELL MEANS

```
        S =        1            2
               51.91667     48.66667
        Q =        1            2
               59.37500     41.70833
        C =        1            2            3
               47.43750     51.50000     51.93750
        Q =        1            2
  S =   1      64.33333     39.50000
        2      53.41667     43.91667
        C =        1            2            3
  S =   1      46.12500     49.87500     59.75000
        2      49.75000     53.12500     44.12500
        C =        1            2            3
  Q =   1      43.25000     59.62500     57.75000
        2      45.62500     43.37500     36.12500
        S =   1
        C =        1            2            3
  Q =   1      51.75000     58.25000     83.00000
        2      40.50000     41.50000     36.50000
        S =   2
        C =        1            2            3
  Q =   1      45.75000     61.00000     52.50000
        2      50.75000     45.25000     35.75000
        S =   1     Q =   1
        R =        1            2            3            4
  C =   1      62.00000     36.00000     69.00000     40.00000
        2      27.00000    109.00000     61.00000     36.00000
        3      52.00000     62.00000    109.00000    109.00000
        S =   1     Q =   2
        R =        1            2            3            4
  C =   1      37.00000      2.00000     56.00000     67.00000
        2      39.00000     34.00000     32.00000     61.00000
        3      69.00000     73.00000      2.00000      2.00000
        S =   2     Q =   1
        R =        1            2            3            4
  C =   1      33.00000     36.00000     63.00000     50.00000
        2      51.00000     60.00000     66.00000     67.00000
        3      42.00000     49.00000     67.00000     52.00000
        S =   2     Q =   2
        R =        1            2            3            4
  C =   1      39.00000     60.00000     37.00000     67.00000
        2      44.00000     34.00000     77.00000     30.00000
        3      21.00000     36.00000     44.00000     42.00000
```

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 4

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	44.7246	171482.5	1	171482.5	N.S.
S (SEX)	.7272	402.5208	1	402.5208	N.S.
Q (I.Q.)	8.4540	3834.187	1	3834.187	.01
C (Cont. Status)	.1349	148.1667	2	74.08333	N.S.
SQ	1.2205	553.5208	1	553.5208	N.S.
SC	3.3229	655.1667	2	327.5833	N.S.
QC	1.2110	1098.500	2	549.2500	N.S.
SQC	.2174	197.1667	2	98.58333	N.S.
R(SQC)		16327.25	36	453.5347	- -

Proger

TABLE 68

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 4

CELL MEANS

```
        S =       1            2
              62.66667     56.87500
        Q =       1            2
              68.70833     50.83333
        C =       1            2            3
              58.06250     59.06250     62.18750
        Q =       1            2
   S =   1    75.00000     50.33333
         2    62.41667     51.33333
        C =       1            2            3
   S =   1    59.62500     58.25000     70.12500
         2    56.50000     59.87500     54.25000
        C =       1            2            3
   Q =   1    60.37500     70.12500     75.62500
         2    55.75000     48.00000     48.75000
        S =   1
        C =       1            2            3
   Q =   1    64.50000     70.75000     89.75000
         2    54.75000     45.75000     50.50000
        S =   2
        C =       1            2            3
   Q =   1    56.25000     69.50000     61.50000
         2    56.75000     50.25000     47.00000
        S =   1     Q =   1
        R =       1            2            3            4
   C =   1    73.00000     50.00000     79.00000     56.00000
         2    49.00000    116.00000     68.00000     50.00000
         3    54.00000     73.00000    116.00000    116.00000
        S =   1     Q =   2
        R =       1            2            3            4
   C =   1    49.00000     22.00000     74.00000     74.00000
         2    46.00000     36.00000     33.00000     68.00000
         3    79.00000     79.00000     22.00000     22.00000
        S =   2     Q =   1
        R =       1            2            3            4
   C =   1    33.00000     50.00000     79.00000     63.00000
         2    63.00000     67.00000     74.00000     74.00000
         3    57.00000     59.00000     76.00000     54.00000
        S =   2     Q =   2
        R =       1            2            3            4
   C =   1    45.00000     67.00000     40.00000     74.00000
         2    54.00000     36.00000     79.00000     32.00000
         3    35.00000     42.00000     54.00000     57.00000
```

TABLE 69

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 4

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	59.1336	172320.3	1	172320.3	N.S.
S (SEX)	.4066	161.3333	1	161.3333	N.S.
Q (I.Q.)	6.7575	2914.083	1	2914.083	.05
C (Cont. Status)	.0989	85.16667	2	42.58333	N.S.
SQ	.9200	396.7500	1	396.7500	N.S.
SC	4.7474	833.1667	2	416.5833	N.S.
QC	.9985	861.1667	2	430.5833	N.S.
SQC	.2035	175.5000	2	87.75000	N.S.
R(SQC)		15524.50	36	431.2361	- -

TABLE 70

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 4

CELL MEANS

```
      S =        1            2
            61.75000     58.08333
      Q =        1            2
            67.70833     52.12500
      C =        1            2            3
            58.37500     59.75000     61.62500
      Q =        1            2
  S =  1    72.41667     51.08333
       2    63.00000     53.16667
      C =        1            2            3
  S =  1    58.25000     57.75000     69.25000
       2    58.50000     61.75000     54.00000
      C =        1            2            3
  Q =  1    61.00000     67.50000     74.62500
       2    55.75000     52.00000     48.62500
      S =  1
      C =        1            2            3
  Q =  1    64.50000     65.75000     87.00000
       2    52.00000     49.75000     51.50000
      S =  2
      C =        1            2            3
  Q =  1    57.50000     69.25000     62.25000
       2    59.50000     54.25000     45.75000
      S =  1      Q =  1
      R =        1            2            3            4
  C =  1    73.00000     50.00000     79.00000     56.00000
       2    33.00000    107.00000     73.00000     50.00000
       3    61.00000     73.00000    107.00000    107.00000
      S =  1      Q =  2
      R =        1            2            3            4
  C =  1    33.00000     22.00000     79.00000     74.00000
       2    46.00000     41.00000     39.00000     73.00000
       3    79.00000     83.00000     22.00000     22.00000
      S =  2      Q =  1
      R =        1            2            3            4
  C =  1    39.00000     50.00000     79.00000     62.00000
       2    62.00000     67.00000     74.00000     74.00000
       3    50.00000     59.00000     79.00000     61.00000
      S =  2      Q =  2
      R =        1            2            3            4
  C =  1    46.00000     67.00000     51.00000     74.00000
       2    56.00000     41.00000     83.00000     37.00000
       3    35.00000     42.00000     56.00000     50.00000
```

TABLE 71

DISTAR LONGITUDINAL DATA

DISTAR BOOK C NUMBER: PERIOD 4

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	258.8770	113393.5	1	113393.5	.05
S (SEX)	.4235	35.02083	1	35.02083	N.S.
Q (I.Q.)	2.2341	438.0208	1	438.0208	N.S.
C (Cont. Status)	.8834	746.1667	2	373.0833	N.S.
SQ	.4217	82.68750	1	82.68750	N.S.
SC	.8354	377.1667	2	188.5833	N.S.
C	2.1541	844.6667	2	422.3333	N.S.
QC	1.1514	451.5000	2	225.7500	N.S.
(SQC)		7058.250	36	196.0625	- -

TABLE 72

DISTAR LONGITUDINAL DATA

DISTAR BOOK C NUMBER : PERIOD 4

CELL MEANS

```
        S =          1              2
                 47.75000       49.45833
        Q =          1              2
                 51.62500       45.58333
        C =          1              2              3
                 53.18750       49.06250       43.56250
        Q =          1              2
   S =   1       52.08333       43.41667
         2       51.16667       47.75000
        C =          1              2              3
   S =   1       54.12500       44.25000       44.87500
         2       52.25000       53.87500       42.25000
        C =          1              2              3
   Q =   1       50.87500       57.00000       47.00000
         2       55.50000       41.12500       40.12500
        S =   1
        C =          1              2              3
   Q =   1       56.00000       49.25000       51.00000
         2       52.25000       39.25000       38.75000
        S =   2
        C =          1              2              3
   Q =   1       45.75000       64.75000       43.00000
         2       58.75000       43.00000       41.50000
        S =   1      Q =   1
        R =          1              2              3              4
   C =   1       64.00000       44.00000       60.00000       56.00000
         2       48.00000       50.00000       55.00000       44.00000
         3       40.00000       64.00000       50.00000       50.00000
        S =   1      Q =   2
        R =          1              2              3              4
   C =   1       48.00000       18.00000       70.00000       73.00000
         2       45.00000       25.00000       32.00000       55.00000
         3       60.00000       59.00000       18.00000       18.00000
        S =   2      Q =   1
        R =          1              2              3              4
   C =   1       32.00000       44.00000       60.00000       47.00000
         2       47.00000       66.00000       73.00000       73.00000
         3       39.00000       52.00000       41.00000       40.00000
        S =   2      Q =   2
        R =          1              2              3              4
   C =   1       45.00000       66.00000       51.00000       73.00000
         2       51.00000       25.00000       59.00000       37.00000
         3       35.00000       41.00000       51.00000       39.00000
```

TABLE 73

DISTAR LONGITUDINAL DATA

DISTAR STORY BOOK NUMBER: PERIOD 4

ANALYSIS OF VARIANCE

SOURCE	*F*	SS	*DF*	MS	*P* LEVEL
MEAN	53.7910	154246.7	1	154246.7	N.S.
S (SEX)	.1023	82.68750	1	82.68750	N.S.
Q (I.Q.)	7.0126	2867.521	1	2867.521	.05
C (Cont. Status)	.1933	396.5000	2	198.2500	N.S.
SQ	1.9773	808.5208	1	808.5208	N.S.
SC	.4189	360.5000	2	180.2500	N.S.
QC	2.5081	2051.167	2	1025.583	N.S.
SQC	1.0524	860.6667	2	430.3333	N.S.
R(SQC)		14720.75	36	408.9097	- -

TABLE 74

DISTAR LONGITUDINAL DATA

DISTAR STORY BOOK NUMBER: PERIOD 4

CELL MEANS

```
         S =        1              2
              59.00000       55.37500
         Q =        1              2
              64.41667       48.95833
         C =        1              2              3
              52.81250       57.56250       59.68750
         Q =        1              2
   S =    1   69.83333       46.16667
          2   59.00000       51.75000
         C =        1              2              3
   S =    1   52.12500       57.00000       64.87500
          2   53.50000       58.12500       64.50000
         C =        1              2              3
   Q =    1   53.50000       63.62500       75.12500
          2   52.12500       51.50000       43.25000
         S =  1
         C =        1              2              3
   Q =    1   55.00000       62.50000       91.00000
          2   48.25000       51.50000       38.75000
         S =  2
         C =        1              2              3
   Q =    1   51.00000       64.75000       61.25000
          2   55.00000       51.50000       47.75000
         S =  1      Q =  1
         R =        1              2              3              4
   C =    1   54.00000       44.00000       60.00000       56.00000
          2   32.00000      119.00000       55.00000       44.00000
          3   62.00000       64.00000      113.00000      119.00000
         S =  1      Q =  2
         R =        1              2              3              4
   C =    1   32.00000       18.00000       79.00000       73.00000
          2   45.00000       53.00000       53.00000       55.00000
          3   60.00000       59.00000       18.00000       18.00000
         S =  2      Q =  1
         R =        1              2              3              4
   C =    1   53.00000       44.00000       60.00000       47.00000
          2   47.00000       66.00000       73.00000       73.00000
          3   53.00000       52.00000       72.00000       62.00000
         S =  2      Q =  2
         R =        1              2              3              4
   C =    1   45.00000       66.00000       40.00000       73.00000
          2   52.00000       53.00000       59.00000       32.00000
          3   35.00000       41.00000       62.00000       53.00000
```

TABLE 75

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 5

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	F LEVEL
MEAN	50.3453	222905.0	1	222905.0	N.S.
S (SEX)	1.0789	540.0208	1	540.0208	N.S.
Q (I.Q.)	10.0595	4427.521	1	4427.521	.01
C (Cont. Status)	.0734	123.0417	2	61.52083	N.S.
SQ	1.1372	500.5208	1	500.5208	N.S.
SC	3.0322	627.7917	2	313.8958	N.S.
QC	1.9032	1675.292	2	837.6458	N.S.
SQC	.2352	207.0417	2	103.5208	N.S.
R(SQC)		15844.75	36	440.1319	- -

TABLE 76

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 5

CELL MEANS

```
       S =        1              2
              71.50000       64.79167
       O =        1              2
              77.75000       58.54167
       C =        1              2              3
              65.68750       67.37500       70.37500
       O =        1              2
  S =   1     84.33333       58.66667
        2     71.16667       58.41667
       C =        1              2              3
  S =   1     68.37500       67.00000       78.62500
        2     64.50000       67.75000       62.12500
       C =        1              2              3
  O =   1     68.37500       78.62500       86.25000
        2     65.00000       56.12500       54.50000
       S =   1
       C =        1              2              3
  Q =   1     73.25000       79.25000      100.50000
        2     64.50000       54.75000       56.75000
       S =   2
       C =        1              2              3
  Q =   1     63.50000       78.00000       72.00000
        2     65.50000       57.50000       52.25000
       S =   1      O =   1
       R =        1              2              3              4
  C =   1     87.00000       55.00000       53.00000       68.00000
        2     56.00000      125.00000       81.00000       55.00000
        3     65.00000       87.00000      125.00000      125.00000
       S =   1      O =   2
       R =        1              2              3              4
  C =   1     55.00000       32.00000       87.00000       83.00000
        2     54.00000       44.00000       40.00000       81.00000
        3     83.00000       80.00000       32.00000       32.00000
       S =   2      O =   1
       R =        1              2              3              4
  C =   1     40.00000       55.00000       83.00000       76.00000
        2     75.00000       70.00000       33.00000       83.00000
        3     63.00000       73.00000       37.00000       65.00000
       S =   2      O =   2
       R =        1              2              3              4
  C =   1     54.00000       70.00000       55.00000       83.00000
        2     55.00000       44.00000       80.00000       40.00000
        3     41.00000       39.00000       66.00000       63.00000
```

TABLE 77

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 5

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	69.7542	226737.5	1	226737.5	N.S.
S (SEX)	.9370	305.0208	1	305.0208	N.S.
Q (I.Q.)	6.4579	3250.521	1	3250.521	.05
C (Cont. Status)	.0433	49.29167	2	24.64583	N.S.
SQ	.6467	325.5208	1	325.5208	N.S.
SC	9.7960	1134.292	2	567.1458	N.S.
QC	1.1312	1138.792	2	569.3958	N.S.
SQC	.1150	115.7917	2	57.89583	N.S.
R(SQC)		18120.25	36	503.3403	- -

TABLE 78

DISTAR LONGITUDINAL DATA

DISTAR BOOK BO NUMBER: PERIOD 5

CELL MEANS

```
     S =        1            2
           71.25000     66.20833
     Q =        1            2
           76.95833     60.50000
     C =        1            2            3
           67.75000     68.31250     70.12500
     Q =        1            2
S =   1    82.08333     60.41667
      2    71.83333     60.58333
     C =        1            2            3
S =   1    68.12500     66.25000     79.37500
      2    67.37500     70.37500     60.87500
     C =        1            2            3
Q =   1    70.37500     75.87500     84.62500
      2    65.12500     60.75000     55.62500
     S =  1
     C =        1            2            3
Q =   1    74.75000     74.25000     97.25000
      2    61.50000     58.25000     61.50000
     S =  2
     C =        1            2            3
Q =   1    66.00000     77.50000     72.00000
      2    68.75000     63.25000     49.75000
     S =  1     Q =  1
     R =        1            2            3            4
C =   1    87.00000     55.00000     92.00000     65.00000
      2    40.00000    116.00000     86.00000     55.00000
      3    70.00000     87.00000    116.00000    116.00000
     S =  1     Q =  2
     R =        1            2            3            4
C =   1    40.00000     31.00000     92.00000     83.00000
      2    54.00000     48.00000     45.00000     86.00000
      3    92.00000     92.00000     31.00000     31.00000
     S =  2     Q =  1
     R =        1            2            3            4
C =   1    45.00000     55.00000     92.00000     72.00000
      2    72.00000     72.00000     83.00000     83.00000
      3    55.00000     73.00000     90.00000     70.00000
     S =  2     Q =  2
     R =        1            2            3            4
C =   1    54.00000     72.00000     66.00000     83.00000
      2    69.00000     48.00000     92.00000     44.00000
      3    41.00000     34.00000     69.00000     55.00000
```

TABLE 79

DISTAR LONGITUDINAL DATA

DISTAR BOOK C NUMBER: PERIOD 5

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	91.3838	184140.2	1	184140.2	N.S.
S (SEX)	.2640	581.0208	1	581.0208	N.S.
Q (I.Q.)	4.1052	2015.021	1	2015.021	.05
C (Cont. Status)	.0126	24.00000	2	12.00000	N.S.
SQ	4.4832	2200.521	1	2200.521	.05
SC	1.0515	928.6667	2	454.3333	N.S.
QC	1.9458	1910.167	2	955.0833	N.S.
SQC	.8996	883.1667	2	441.5833	N.S.
R(SQC)		17670.25	36	490.8403	- -

TABLE 80

DISTAR LONGITUDINAL DATA

DISTAR BOOK C NUMBER: PERIOD 5

CELL MEANS

```
     S =        1              2
             65.41567       58.45833
     Q =        1              2
             63.41567       55.45833
     C =        1              2              3
             62.43750       62.43750       60.93750
     Q =        1              2
S =  1       78.66667       52.16667
     2       53.16667       58.75000
     C =        1              2              3
S =  1       64.00000       61.75000       70.50000
     2       61.87500       63.12500       51.37500
     C =        1              2              3
Q =  1       60.00000       73.12500       72.12500
     2       64.37500       51.75000       49.75000
     S =  1
     C =        1              2              3
Q =  1       67.00000       74.75000       94.25000
     2       61.00000       48.75000       45.75000
     S =  2
     C =        1              2              3
Q =  1       53.00000       71.50000       50.00000
     2       68.75000       54.75000       52.75000
     S =  1       Q =  1
     R =        1              2              3              4
C =  1       73.00000       49.00000       73.00000       68.00000
     2       56.00000      126.00000       64.00000       49.00000
     3       47.00000       78.00000      126.00000      126.00000
     S =  1       Q =  2
     R =        1              2              3              4
C =  1       55.00000       23.00000       83.00000       82.00000
     2       54.00000       32.00000       41.00000       68.00000
     3       73.00000       68.00000       23.00000       23.00000
     S =  2       Q =  1
     R =        1              2              3              4
C =  1       41.00000       49.00000       73.00000       49.00000
     2       49.00000       73.00000       82.00000       82.00000
     3       47.00000       57.00000       49.00000       47.00000
     S =  2       Q =  2
     R =        1              2              3              4
C =  1       64.00000       73.00000       66.00000       82.00000
     2       74.00000       32.00000       65.00000       45.00000
     3       41.00000       49.00000       74.00000       47.00000
```

TABLE 81

DISTAR LONGITUDINAL DATA

DISTAR STORY BOOK NUMBER: PERIOD 5

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	265.3034	173160.2	1	173160.2	.05
S (SEX)	69.0000	266.0208	1	266.0208	N.S.
Q (I.Q.)	2.5682	652.6875	1	652.6875	N.S.
C (Cont. Status)	.0406	29.62500	2	14.81250	N.S.
SQ	.0001	.2083333E-01	1	.2083333E-01	N.S.
SC	.2606	200.7917	2	100.3958	N.S.
QC	1.4359	729.9750	2	364.9375	N.S.
SQC	1.5159	770.5417	2	385.2708	N.S.
R(SQC)		9149.250	36	254.1458	- -

Proger

TABLE 82

DISTAR LONGITUDINAL DATA

DISTAR STORY BOOK NUMBER: PERIOD 5

CELL MEANS

```
     S =        1            2
             57.70833     62.41667
     Q =        1            2
             63.75000     56.37500
     C =        1            2            3
             61.12500     59.81250     59.25000
     Q =        1            2
 S =  1      61.41667     54.00000
      2      66.08333     58.75000
     C =        1            2            3
 S =  1      61.62500     55.62500     55.87500
      2      60.62500     64.00000     62.62500
     C =        1            2            3
 Q =  1      60.87500     62.12500     68.25000
      2      61.37500     57.50000     50.25000
     S =  1
     C =        1            2            3
 Q =  1      66.25000     53.00000     65.00000
      2      57.00000     58.25000     46.75000
     S =  2
     C =        1            2            3
 Q =  1      55.50000     71.25000     71.50000
      2      65.75000     56.75000     53.75000
     S =  1     Q =  1
     R =        1            2            3            4
 C =  1      78.00000     49.00000     73.00000     65.00000
      2      40.00000     55.00000     68.00000     49.00000
      3      72.00000     78.00000     55.00000     55.00000
     S =  1     Q =  2
     R =        1            2            3            4
 C =  1      40.00000     27.00000     83.00000     62.00000
      2      54.00000     60.00000     51.00000     66.00000
      3      73.00000     68.00000     23.00000     23.00000
     S =  2     Q =  1
     R =        1            2            3            4
 C =  1      51.00000     49.00000     73.00000     49.00000
      2      49.00000     72.00000     82.00000     82.00000
      3      66.00000     66.00000     82.00000     72.00000
     S =  2     Q =  2
     R =        1            2            3            4
 C =  1      54.00000     72.00000     55.00000     82.00000
      2      59.00000     60.00000     68.00000     40.00000
      3      41.00000     49.00000     59.00000     66.00000
```

TABLE 83

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 6

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	56.4628	287061.3	1	287061.3	N.S.
S (SEX)	2.0606	660.0833	1	660.0833	N.S.
Q (I.Q.)	9.5570	5084.083	1	5084.083	.01
C (Cont. Status)	.1127	151.2917	2	75.64583	N.S.
SQ	.6022	320.3333	1	320.3333	N.S.
SC	7.4254	885.7917	2	442.8958	N.S.
QC	1.2621	1342.792	2	671.3958	N.S.
SQC	.1121	119.2917	2	59.64583	N.S.
R(SQC)		19151.00	36	531.9722	- -

TABLE 84

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 6

CELL MEANS

```
       S =        1              2
              81.04167       73.62500
       Q =        1              2
              87.62500       67.04167
       C =        1              2              3
              76.43750       75.75000       79.81250
       Q =        1              2
 S =   1      93.91667       68.16667
       2      81.33333       65.91667
       C =        1              2              3
 S =   1      78.62500       75.12500       89.37500
       2      74.25000       76.37500       70.25000
       C =        1              2              3
 Q =   1      79.87500       86.87500       96.12500
       2      73.00000       64.62500       63.50000
       S =   1
       C =        1              2              3
 Q =   1      85.00000       86.75000      110.00000
       2      72.25000       63.50000       68.75000
       S =   2
       C =        1              2              3
 Q =   1      74.75000       67.00000       82.25000
       2      73.75000       65.75000       58.25000
       S =   1      Q =   1
       R =        1              2              3              4
 C =   1      95.00000       60.00000      101.00000       83.00000
       2      59.00000      135.00000       93.00000       60.00000
       3      74.00000       96.00000      135.00000      135.00000
       S =   1      Q =   2
       R =        1              2              3              4
 C =   1      53.00000       41.00000       90.00000       90.00000
       2      62.00000       53.00000       46.00000       93.00000
       3     101.00000       92.00000       41.00000       41.00000
       S =   2      Q =   1
       R =        1              2              3              4
 C =   1      45.00000       60.00000      101.00000       92.00000
       2      92.00000       76.00000       90.00000       96.00000
       3      69.00000       65.00000       38.00000       74.00000
       S =   2      Q =   2
       R =        1              2              3              4
 C =   1      67.00000       76.00000       67.00000       90.00000
       2      71.00000       53.00000       92.00000       47.00000
       3      45.00000       47.00000       71.00000       69.00000
```

TABLE 85

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 6

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	F LEVEL
MEAN	60.9057	286288.5	1	286288.5	N.S.
S (SEX)	1.2196	336.0208	1	336.0208	N.S.
Q (I.Q.)	7.2102	4700.521	1	4700.521	.05
C (Cont. Status)	.0048	6.166667	2	3.083333	N.S.
SQ	.4226	275.5208	1	275.5208	N.S.
SC	6.2650	1257.167	2	628.5833	N.S.
QC	.9933	1295.167	2	647.5833	N.S.
SQC	.1539	200.6667	2	100.3333	N.S.
R(SQC)		23469.25	36	651.9236	- -

TABLE 86

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 6

CELL MEANS

```
      S =         1            2
              79.87500     74.58333
      Q =         1            2
              87.12500     67.33333
      C =         1            2            3
              77.18750     76.81250     77.68750
      Q =         1            2
S =    1      92.16667     67.58333
       2      82.08333     67.08333
      C =         1            2            3
S =    1      77.12500     75.00000     87.50000
       2      77.25000     78.62500     67.87500
      C =         1            2            3
Q =    1      81.75000     85.00000     94.62500
       2      72.62500     68.62500     60.75000
      S =    1
      C =         1            2            3
Q =    1      86.50000     83.00000    107.00000
       2      67.75000     67.00000     68.00000
      S =    2
      C =         1            2            3
Q =    1      77.00000     87.00000     82.25000
       2      77.50000     70.25000     53.50000
      S =    1      Q =    1
      R =         1            2            3            4
C =    1      96.00000     60.00000    109.00000     81.00000
       2      48.00000    126.00000     98.00000     60.00000
       3      81.00000     96.00000    125.00000    126.00000
      S =    1      Q =    2
      R =         1            2            3            4
C =    1      48.00000     29.00000    104.00000     90.00000
       2      62.00000     57.00000     51.00000     98.00000
       3     109.00000    105.00000     29.00000     29.00000
      S =    2      Q =    1
      R =         1            2            3            4
C =    1      51.00000     60.00000    109.00000     88.00000
       2      93.00000     68.00000     97.00000     90.00000
       3      60.00000     89.00000    100.00000     80.00000
      S =    2      Q =    2
      R =         1            2            3            4
C =    1      62.00000     80.00000     78.00000     90.00000
       2      67.00000     57.00000    105.00000     52.00000
       3      46.00000     41.00000     67.00000     60.00000
```

TABLE 87

DISTAR LONGITUDINAL DATA

DISTAR BOOK C NUMBER: PERIOD 6

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	F LEVEL
MEAN	119.1678	240125.5	1	240125.5	N.S.
S (SEX)	.3751	652.6875	1	652.6875	N.S.
Q (I.Q.)	3.8538	2015.021	1	2015.021	N.S.
C (Cont. Status)	.1008	132.0417	2	66.02083	N.S.
SQ	3.3278	1740.021	1	1740.021	N.S.
SC	1.5090	1125.375	2	562.6875	N.S.
QC	1.2520	1309.292	2	654.6458	N.S.
SQC	.7132	745.7917	2	372.8958	N.S.
R(SQC)		18823.25	36	522.8681	- -

Proger

TABLE 88

DISTAR LONGITUDINAL DATA

DISTAR BOOK C NUMBER: PERIOD 6

CELL MEANS

```
      S =        1              2
             74.41567       67.04167
      Q =        1              2
             77.20833       64.25000
      C =        1              2              3
             72.75000       70.75000       68.68750
      Q =        1              2
  S =  1     86.91667       61.91667
       2     67.50000       66.58333
      C =        1              2              3
  S =  1     74.62500       69.62500       79.00000
       2     70.87500       71.87500       58.37500
      C =        1              2              3
  Q =  1     71.87500       81.50000       78.25000
       2     73.62500       60.00000       59.12500
      S =  1
      C =        1              2              3
  Q =  1     79.00000       82.00000       99.75000
       2     70.25000       57.25000       58.25000
      S =  2
      C =        1              2              3
  Q =  1     64.75000       81.00000       56.75000
       2     77.00000       62.75000       60.00000
      S =  1     Q =  1
      R =        1              2              3              4
  C =  1     87.00000       54.00000       91.00000       84.00000
       2     64.00000      130.00000       80.00000       54.00000
       3     52.00000       87.00000      130.00000      130.00000
      S =  1     Q =  2
      R =        1              2              3              4
  C =  1     64.00000       72.00000       55.00000       90.00000
       2     61.00000       39.00000       49.00000       80.00000
       3     91.00000       78.00000       32.00000       32.00000
      S =  2     Q =  1
      R =        1              2              3              4
  C =  1     49.00000       54.00000       91.00000       65.00000
       2     65.00000       79.00000       80.00000       20.00000
       3     55.00000       65.00000       55.00000       52.00000
      S =  2     Q =  2
      R =        1              2              3              4
  C =  1     61.00000       79.00000       78.00000       90.00000
       2     82.00000       39.00000       78.00000       52.00000
       3     46.00000       57.00000       82.00000       55.00000
```

TABLE 89

DISTAR LONGITUDINAL DATA

DISTAR STORY BOOK NUMBER: PERIOD 6

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	272.1671	224543.5	1	224543.5	.05
S (SEX)	5.3007	204.1875	1	204.1875	N.S.
Q (I.Q.)	2.5564	825.0208	1	825.0208	N.S.
C (Cont. Status)	.6052	288.1667	2	144.0833	N.S.
SQ	.1194	38.52083	1	38.52083	N.S.
SC	.2228	210.5000	2	105.2500	N.S.
QC	.7377	476.1667	2	238.0833	N.S.
SQC	1.4636	944.6657	2	472.3333	N.S.
R(SQC)		11618.25	36	322.7292	- -

TABLE 90

DISTAR LONGITUDINAL DATA

DISTAR SOTRY BOOK NUMBER: PERIOD 6

CELL MEANS

```
       S =          1             2
              66.33333      70.45833
       Q =          1             2
              72.54167      64.25000
       C =          1             2             3
              71.43750      68.31250      65.43750
       Q =          1             2
  S =  1      69.58333      63.08333
       2      75.50000      65.41667
       C =          1             2             3
  S =  1      71.87500      63.62500      63.50000
       2      71.00000      73.00000      67.37500
       C =          1             2             3
  Q =  1      72.87500      70.75000      74.00000
       2      70.00000      65.87500      56.87500
       S =  1
       C =          1             2             3
  Q =  1      78.25000      60.25000      70.25000
       2      65.50000      67.00000      56.75000
       S =  2
       C =          1             2             3
  Q =  1      67.50000      81.25000      77.75000
       2      74.50000      64.75000      57.00000
       S =  1      Q =  1
       R =          1             2             3             4
  C =  1      87.00000      54.00000      91.00000      81.00000
       2      48.00000      59.00000      80.00000      54.00000
       3      76.00000      87.00000      59.00000      59.00000
       S =  1      Q =  2
       R =          1             2             3             4
  C =  1      48.00000      29.00000      95.00000      90.00000
       2      61.00000      67.00000      60.00000      80.00000
       3      91.00000      78.00000      29.00000      29.00000
       S =  2      Q =  1
       R =          1             2             3             4
  C =  1      60.00000      54.00000      91.00000      65.00000
       2      65.00000      80.00000      90.00000      90.00000
       3      74.00000      74.00000      87.00000      76.00000
       S =  2      Q =  2
       R =          1             2             3             4
  C =  1      61.00000      80.00000      67.00000      90.00000
       2      67.00000      67.00000      78.00000      47.00000
       3      46.00000      41.00000      67.00000      74.00000
```

TABLE 91

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 7

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	57.1690	358975.0	1	358975.0	N.S.
S (SEX)	1.0278	450.1875	1	450.1875	N.S.
Q (I.Q.)	9.3287	6279.187	1	6279.187	.01
C (Cont. Status)	.0717	95.04167	2	47.52083	N.S.
SQ	.6507	438.0208	1	438.0208	N.S.
SC	3.3848	672.8750	2	336.4375	N.S.
QC	.9851	1326.125	2	663.0625	N.S.
SQC	.1471	198.7917	2	99.39583	N.S.
R(SQC)		24231.75	36	673.1042	- -

TABLE 92

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: PERIOD 7

CELL MEANS

```
        S =       1             2
             89.54167      83.41667
        Q =       1             2
             97.91667      75.04167
        C =       1             2             3
             85.62500      84.68750      89.12500
        Q =       1             2
    S =  1  104.00000      75.08333
         2   91.83333      75.00000
        C =       1             2             3
    S =  1   88.50000      83.87500      96.25000
         2   84.75000      85.50000      80.00000
        C =       1             2             3
    Q =  1   91.62500      96.12500     106.00000
         2   81.62500      73.25000      70.25000
        S =  1
        C =       1             2             3
    Q =  1   97.50000      95.50000     119.00000
         2   79.50000      72.25000      73.50000
        S =  2
        C =       1             2             3
    Q =  1   85.75000      96.75000      93.00000
         2   83.75000      74.25000      67.00000
        S =  1      Q =  1
        R =       1             2             3             4
    C =  1  109.00000      67.00000     116.00000      98.00000
         2   67.00000     142.00000     106.00000      67.00000
         3   83.00000     109.00000     142.00000     142.00000
        S =  1      Q =  2
        R =       1             2             3             4
    C =  1   67.00000      38.00000     115.00000      98.00000
         2   70.00000      60.00000      53.00000     106.00000
         3  116.00000     102.00000      38.00000      38.00000
        S =  2      Q =  1
        R =       1             2             3             4
    C =  1   53.00000      67.00000     116.00000     107.00000
         2  107.00000      84.00000      98.00000      98.00000
         3   78.00000     101.00000     110.00000      83.00000
        S =  2      Q =  2
        R =       1             2             3             4
    C =  1   70.00000      84.00000      83.00000      98.00000
         2   81.00000      60.00000     102.00000      54.00000
         3   54.00000      55.00000      81.00000      78.00000
```

TABLE 93

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 7

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	82.0074	371008.3	1	371008.3	N.S.
S (SEX)	5.6756	546.7500	1	546.7500	N.S.
Q (I.Q.)	6.6590	4524.083	1	4524.083	.05
C (Cont. Status)	.1018	94.79167	2	47.39583	N.S.
SQ	.1418	96.33333	1	96.33333	N.S.
SC	6.9030	1560.375	2	780.1875	N.S.
QC	.6854	931.2917	2	465.6458	N.S.
SQC	.1664	226.0417	2	113.0208	N.S.
R(SQC)		24458.00	36	679.3889	- -

TABLE 94

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: PERIOD 7

CELL MEANS

```
          S =       1              2
                91.29167       84.54167
          Q =       1              2
                97.62500       78.20833
          C =       1              2              3
                89.06250       85.93750       88.75000
          Q =       1              2
     S =   1   102.41667       80.16667
           2    92.83333       76.25000
          C =       1              2              3
     S =   1    90.00000       83.87500      100.00000
           2    88.12500       88.00000       77.50000
          C =       1              2              3
     Q =   1    94.12500       94.37500      104.37500
           2    84.00000       77.50000       73.12500
          S =  1
          C =       1              2              3
     Q =   1    99.50000       91.75000      116.00000
           2    80.50000       76.00000       84.00000
          S =  2
          C =       1              2              3
     Q =   1    88.75000       97.00000       92.75000
           2    87.50000       79.00000       62.25000
          S =  1       Q =  1
          R =       1              2              3              4
     C =   1   109.00000       67.00000      125.00000       97.00000
           2    56.00000      133.00000      111.00000       67.00000
           3    89.00000      109.00000      133.00000      133.00000
          S =  1       Q =  2
          R =       1              2              3              4
     C =   1    56.00000       48.00000      120.00000       98.00000
           2    70.00000       64.00000       59.00000      111.00000
           3   125.00000      115.00000       48.00000       48.00000
          S =  2       Q =  1
          R =       1              2              3              4
     C =   1    59.00000       67.00000      125.00000      104.00000
           2   104.00000       88.00000       98.00000       98.00000
           3    69.00000      102.00000      111.00000       89.00000
          S =  2       Q =  2
          R =       1              2              3              4
     C =   1    70.00000       88.00000       94.00000       98.00000
           2    77.00000       64.00000      115.00000       60.00000
           3    54.00000       49.00000       77.00000       69.00000
```

TABLE 95

DISTAR LONGITUDINAL DATA

DISTAR BOOK C NUMBER: PERIOD 7

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	968.5626	266859.2	1	266859.2	.05
S (SEX)	.7056	9.187500	1	9.187500	N.S.
Q (I.Q.)	.6945	275.5208	1	275.5208	N.S.
C (Cont. Status)	4.1113	2389.875	2	1194.937	N.S.
SQ	.0328	13.02083	1	13.02083	N.S.
SC	.8348	676.6250	2	338.3125	N.S.
QC	.7326	581.2917	2	290.6458	N.S.
SQC	1.0216	810.5417	2	405.2708	N.S.
R(SQC)		14281.75	36	396.7153	- -

TABLE 96

DISTAR LONGITUDINAL DATA

DISTAR BOOK C NUMBER: PERIOD 7

CELL MEANS

```
        S =        1            2
              75.00000     74.12500
        Q =        1            2
              76.95833     72.16667
        C =        1            2            3
              83.50000     73.93750     66.25000
        Q =        1            2
   S =   1    77.91667     72.08333
         2    76.00000     72.25000
        C =        1            2            3
   S =   1    85.87500     69.12500     70.00000
         2    81.12500     78.75000     62.50000
        C =        1            2            3
   Q =   1    83.25000     81.25000     66.37500
         2    83.75000     66.62500     66.12500
        S =  1
        C =        1            2            3
   Q =   1    91.25000     72.00000     70.50000
         2    80.50000     66.25000     69.50000
        S =  2
        C =        1            2            3
   Q =   1    75.25000     90.50000     62.25000
         2    87.00000     67.00000     62.75000
        S =  1     Q =  1
        R =        1            2            3            4
   C =   1   100.00000     60.00000    106.00000     99.00000
         2    72.00000     63.00000     93.00000     60.00000
         3    56.00000    100.00000     63.00000     63.00000
        S =  1     Q =  2
        R =        1            2            3            4
   C =   1    72.00000     41.00000    111.00000     98.00000
         2    69.00000     47.00000     56.00000     93.00000
         3   106.00000     90.00000     41.00000     41.00000
        S =  2     Q =  1
        R =        1            2            3            4
   C =   1    56.00000     60.00000    106.00000     79.00000
         2    79.00000     87.00000     98.00000     98.00000
         3    60.00000     72.00000     61.00000     56.00000
        S =  2     Q =  2
        R =        1            2            3            4
   C =   1    69.00000     87.00000     94.00000     98.00000
         2    72.00000     47.00000     90.00000     59.00000
         3    54.00000     65.00000     72.00000     60.00000
```

DISTAR LONGITUDINAL DATA

DISTAR STORY BOOK NUMBER: PERIOD 7

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	116.3694	326535.0	1	326535.0	N.S.
S (SEX)	.3575	266.0208	1	266.0208	N.S.
Q (I.Q.)	5.2471	2806.021	1	2806.021	.05
C (Cont. Status)	.0015	2.041667	2	1.020833	N.S.
SQ	1.3916	744.1875	1	744.1875	N.S.
SC	1.1339	683.0417	2	341.5208	N.S.
QC	1.2814	1370.542	2	685.2708	N.S.
SQC	.5632	602.3750	2	301.1875	N.S.
R(SQC)		19251.75	36	534.7708	- -

Proger

TABLE 98

DISTAR LONGITUDINAL DATA

DISTAR STORY BOOK NUMBER: PERIOD 7

CELL MEANS

```
      S =         1            2
              84.83333     80.12500
      Q =         1            2
              90.12500     74.83333
      C =         1            2              3
              82.25000     82.43750       82.75000
      Q =         1            2
   S = 1      96.41667     73.25000
       2      83.83333     76.41667
      C =         1            2              3
   S = 1      83.25000     81.00000       90.25000
       2      81.25000     83.87500       75.25000
      C =         1            2              3
   Q = 1      84.37500     88.37500       97.62500
       2      80.12500     76.50000       67.87500
      S = 1
      C =         1            2              3
   Q = 1      90.75000     86.00000      112.50000
       2      75.75000     76.00000       68.00000
      S = 2
      C =         1            2              3
   Q = 1      78.00000     90.75000       92.75000
       2      84.50000     77.00000       67.75000
      S = 1       Q = 1
      R =         1            2              3               4
   C = 1     100.00000     60.00000      106.00000        97.00000
       2      56.00000    135.00000       93.00000        60.00000
       3      80.00000    100.00000      135.00000       135.00000
      S = 1       Q = 2
      R =         1            2              3               4
   C = 1      56.00000     38.00000      111.00000        98.00000
       2      69.00000     75.00000       67.00000        93.00000
       3     106.00000     90.00000       38.00000        38.00000
      S = 2       Q = 1
      R =         1            2              3               4
   C = 1      67.00000     60.00000      106.00000        79.00000
       2      79.00000     88.00000       98.00000        98.00000
       3      79.00000     80.00000       97.00000        80.00000
      S = 2       Q = 2
      R =         1            2              3               4
   C = 1      69.00000     88.00000       83.00000        98.00000
       2      89.00000     75.00000       90.00000        54.00000
       3      54.00000     49.00000       89.00000        79.00000
```

APPENDIX D

TABLES FOR DISTAR INTENSIVE STUDY:

INTRA - YEAR FINDINGS ACROSS ALL 7 PERIODS

TABLE 99

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: ACROSS ALL PERIODS

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	47.5744	1194885.	1	1194885.	N.S.
S (SEX)	.8277	2135.146	1	2135.146	N.S.
Q (I.Q.)	8.1223	25116.15	1	25116.15	.01
C (Cont. Status)	.0957	927.8750	2	463.9375	N.S.
M (Measurement)	65.6701	105400.5	6	17566.74	.01
SQ	.8342	2579.646	1	2579.646	N.S.
SC	3.6043	4947.077	2	2473.539	N.S.
QC	1.5669	9690.792	2	4845.396	N.S.
SM	.8448	273.0833	6	45.51389	N.S.
QM	7.9601	1605.000	6	267.5000	.01
CM	.6737	202.2083	12	16.850.69	N.S.
SQC	.2219	1372.542	2	686.2708	N.S.
SQM	1.6032	323.2500	6	53.87500	N.S.
SCM	.4427	48.75595	12	4.062996	N.S.
QCM	.7442	300.1250	12	25.01042	N.S.
R(SQC)		111321.0	36	3092.251	- -
SQCM	.2731	110.1250	12	9.177083	N.S.
RM(SQC)		7258.714	216	33.61516	- -

TABLE 100

DISTAR LONGITUDINAL DATA

DISTAR BOOK A NUMBER: ACROSS ALL PERIODS

CELL MEANS

```
          S =         1              2
                 62.15476       57.11310
          Q =         1              2
                 69.27976       50.98810
          C =         1              2              3
                 57.99107       59.00000       61.91071
          M =         1              2              3              4              5              6
                 33.12500       42.37500       50.20833       59.77083       68.14583       77.3
          Q =         1              2
     S =   1     73.57143       50.73810
           2     62.39910       51.23810
          C =         1              2              3
     S =   1     59.01786       57.75000       69.69643
           2     56.96429       60.25000       54.12500
          C =         1              2              3
     Q =   1     59.32143       69.53571       75.98214
           2     56.65071       48.46429       47.83929
          S =  1
          C =         1              2              3
     Q =   1     63.00000       68.64286       89.07143
           2     55.03571       46.85714       50.32143
          S =  2
          C =         1              2              3
     Q =   1     55.64286       70.42857       62.89286
           2     58.28571       50.07143       45.35714
          S =  1      O =  1
          R =         1              2              3              4
     C =   1     74.14286       44.00000       78.42857       55.42857
           2     47.14286      113.14286       70.28571       44.00000
           3     55.85714       74.14286      113.14286      113.14286
          S =  1      O =  2
          R =         1              2              3              4
     C =   1     47.14286       22.85714       75.57143       74.57143
           2     47.00000       37.00000       33.14286       70.28571
           3     78.42857       77.14286       22.85714       22.85714
          S =  2      O =  1
          R =         1              2              3              4
     C =   1     33.14286       44.00000       79.42857       67.00000
           2     67.00000       65.57143       74.57143       74.57143
           3     56.28571       61.14286       78.28571       55.85714
          S =  2      O =  2
          R =         1              2              3              4
     C =   1     47.00000       65.57143       46.00000       74.57143
           2     52.71429       37.00000       77.14286       33.42857
           3     33.57143       38.85714       52.71429       56.28571
```

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: ACROSS ALL PERIODS

ANALYSIS OF VARIANCE

SOURCE	F	SS	DF	MS	P LEVEL
MEAN	63.6562	1193573.	1	1193573.	N.S.
S (SEX)	.8201	1122.012	1	1122.012	N.S.
Q (I.Q.)	6.2236	18750.30	1	118750.30	.05
C (Cont. Status)	.0397	280.1845	2	140.0923	N.S.
M (Measurement)	62.8211	115061.8	6	19176.96	.01
SQ	.4541	1368.107	1	1368.107	N.S.
SC	6.1255	6534.899	2	3267.449	N.S.
QC	1.1705	7052.577	2	3526.289	N.S.
SM	.7823	369.2798	6	61.54663	N.S.
QM	6.4486	1831.577	6	305.2629	.01
CM	.4338	293.9821	12	24.49851	N.S.
SQC	.1771	1066.839	2	533.4196	N.S.
SQM	1.6619	472.0179	6	78.66964	N.S.
SCM	.9430	314.1845	12	26.18204	N.S.
QCM	1.1930	677.6726	12	56.47272	N.S.
R(SQC)		108459.1	36	3012.752	- -
SQCM	.5865	333.1607	12	27.76339	N.S.
RM(SQC)		10224.93	216	47.33763	- -

Proger

TABLE 102

DISTAR LONGITUDINAL DATA

DISTAR BOOK B NUMBER: ACROSS ALL PERIODS

CELL MEANS

```
      S =       1           2
            61.42957    57.77381
      Q =       1           2
            67.07143    52.13095
      C =       1           2           3
            58.52679    59.51786    60.75893
      M =       1           2           3           4           5           6
            31.41667    41.70833    50.29167    59.91667    68.72917    77.22917
      Q =       1           2
  S =   1   70.91667    51.94048
        2   63.22619    52.32143
      C =       1           2           3
  S =   1   58.46429    57.14286    68.67857
        2   58.58929    61.89286    52.83929
      C =       1           2           3
  Q =   1   60.26786    67.23214    73.71429
        2   56.78571    51.80357    47.80357
      S =   1
      C =       1           2           3
  Q =   1   63.57143    64.35714    84.82143
        2   53.35714    49.92857    52.53571
      S =   2
      C =       1           2           3
  Q =   1   56.96429    70.10714    62.60714
        2   60.21429    53.67857    43.07143
      S =   1       Q =   1
      R =       1           2           3           4
  C =   1   74.14285    44.00000    81.57143    54.57143
        2   37.28571   102.28571    73.85714    44.00000
        3   60.57143    74.14286   102.28571   102.28571
      S =   1       Q =   2
      R =       1           2           3           4
  C =   1   37.28571    22.42857    79.14286    74.57143
        2   47.00000    40.85714    38.00000    73.85714
        3   81.57143    83.71429    22.42857    22.42857
      S =   2       Q =   1
      R =       1           2           3           4
  C =   1   38.00000    44.00000    81.57143    64.28571
        2   64.28571    67.00000    74.57143    74.57143
        3   49.14286    61.42857    79.28571    60.57143
      S =   2       Q =   2
      R =       1           2           3           4
  C =   1   47.00000    67.00000    52.28571    74.57143
        2   53.14286    40.85714    83.71429    37.00000
        3   33.57143    36.42857    53.14286    49.14286
```